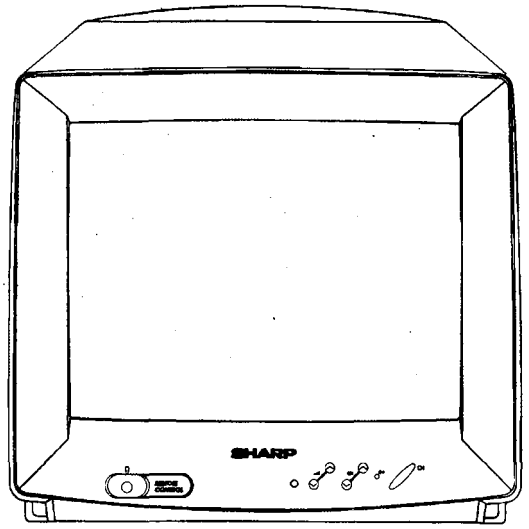
SHARP SERVICE MANUAL

SEMH37ET35S//

CA-1 CHASSIS

PAL SYSTEM COLOUR TELEVISION



MODEL 37ET-35S

In order to service model 37ET-35S, refer to the previously issued Service Manual for model 37DT-25S. This manual only contains the differences beween the above mentioned models.

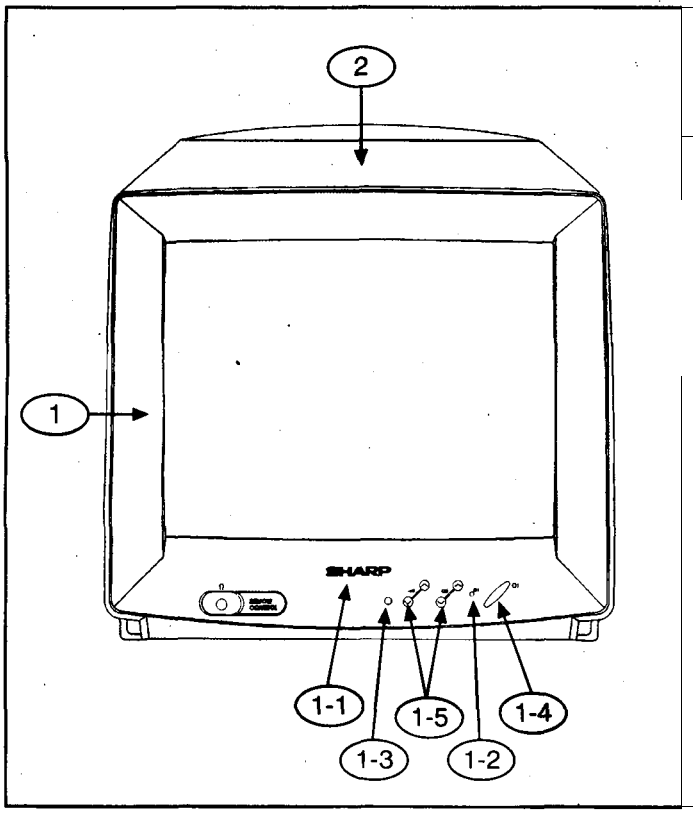
In the interests of user-safety (required by safety regulations in some countries) the set should be restored to its original condition amd only parts identical to those specified should be used.

•**PARTS LIST** .....

SHARP CORPORATION

The difference between the previous model 37DT-25S and the current model 37ET-35S, is only the cabinet.

PARTS LIST (Only contains the differences)



CODE EX: EUROPEAN MARKET
CODE SP: SPANISH MARKET
* MARK: SPARE PARTS DELIVERY SECTION

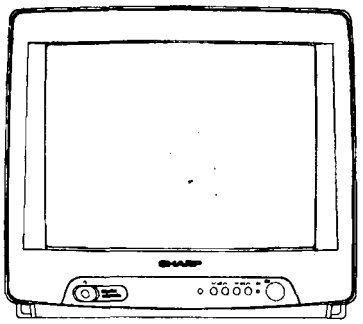
REF. NO.	PARTS	*	DESCRIPTION	CODE EX	CODE SP
			MISCELLANEOUS PARTS		
	TINS-6586BMNO	S	Operation Manual	AP	AG
			CABINET PARTS		
1	CCABA1229BMVO	S	Front Cabinet	AX	AQ
1-1	HBDGB1017BMSB	S	Badge SHARP	AC	AB
1-2	HDECQ0035BMSA	S	Window power	AB	AA
1-3	HDECQ0036BMSA	S	Window R/C	AB	AA
1-4	JBTN-1046BMSA	S	Button, Power	AB	AA
1-5	JBTN-1047BMSA	S	Button, Up/Down	AD	AB
2	GCABB1067BMKA	S	Rear Cabinet	AU	AM

SHARP

SHARP SERVICE MANUAL

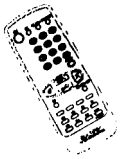
SEMC37DM23SC/

CA-1 CHASSIS



PAUSECAM SYSTEM COLOUR TELEVISION

MODEL 37DM-23SC



In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified be used.

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SHARP CORPORATION

ELECTRICAL SPECIFICATIONS

Aerial input Impedance..... **75** ohm unbalanced
Convergence..... Self Converging System
Focus ..... Bipotential electrostatic
Audio Power Output Rating .....2Watt(M.P.O.)
Intermediate Frequencies
Picture IF Carrier Frequency .. 38.9 MHz
Sound IF Carrier Frequency B/G..... 33.4 MHz
D/K ..... 32.4 MHz
Colour Sub-Carrier Frequency PAL (B/G)
.....34.47MHz
SECAM (D/K)
..... 34.65/34.49375 MHz
(Normal)

Power Input..... 220/240 Volts AC 50 Hz
Power Consumption ... . 38 Wh
Speaker Size..... .....8 cm (Round)
Voice Coil Impedance. ..... 32 ohms
Sweep Deflection..... ..... Magnetic
Tuning Ranges..... .48.25MHz-855.25 MHz
CATV Special channels

Specifications are subject to change without prior notice.

WARNING

The chassis in this receiver is partially hot. Use an isolation transformer between the line cord plug and power receptacle, when servicing this chassis.
To prevent electric shock, do not remove cover. No user - serviceable parts inside. Refer servicing to qualified service personnel.

IMPORTAMT SERVICE NOTES

Maintenance and repair of this receiver should be carried out by qualified service personnel only.

SERVICING OF HIGH VOLTAGE SYSTEM AND PICTURE TUBE

When servicing the high voltage system, remove static charge from it by connecting a 10 k ohm resistor in series with an insulated wire (such as a test probe) between picture tube ground tag and high voltage lead (AC line cord should be disconnected from AC outlet).

1. Picture tube in this receiver employs integral implosion protection.
2. Replace with tube of the same type number for continued safety.
3. Do not lift picture tube by the neck.
4. Handle the picture tube only when wearing shatterproof goggles and after discharging the high voltage completely.

X-RAY

This receiver is designed so that any X-Ray radiation is kept to an absolute minimum. Since certain malfunctions or servicing may produce potentially hazardous radiation with prolonged exposure at close range, the following precautions should be observed.

1. When repairing the circuit, **be sure not to** increase the high voltage **to more than** 30.0 kV (at beam 1000 uA) for the **set.**
2. To keep the set in a normal operation, be sure to make it function on 23.5 kV ± 1.5 kV (at beam 800 p.A), in the case of the set. The set has been factory adjusted to the above mentioned high voltage. If there is a possibility that the high voltage fluctuates as result of the repairs, never forget to check for such high voltage after the work.
3. Do not substitute a picture tube with unauthorized types or brands which may cause excess X-Ray radiation.

BEFORE RETURNING THE RECEIVER

Before returning the receiver to the user, perform the following safety checks.

1. Inspect all lead insulation to make certain that leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the receiver.
2. Inspect all protective devices such as non-metallic control knobs, insulating fishpapers, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacity networks, mechanical insulators, etc.

SERVICE ADJUSTMENTS

• SERVICE MODE FUNCTION

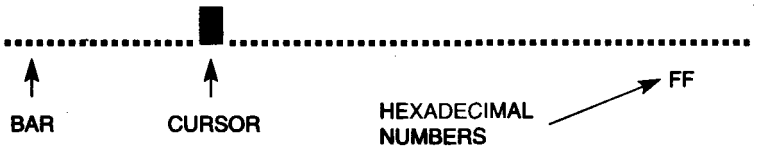
This mode function is provided to assist with the settings of those adjustments that may vary from one Picture Tube **to** another, or between models.

In order to use the Service Mode

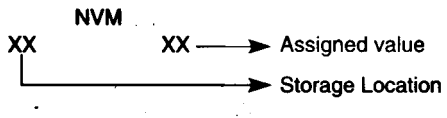
1. Press main switch to OFF.
2. Connect Test Pattern signal to antenna terminal.
3. Press V< and CH /\ buttons and main switch to ON simultaneously.
4. -SERV-will appear on screen. Service mode is now entered.
5. Select adjustment using buttons f\ CM V.
   To exit service mode, press MENU button on R/C.

	Displayed on Screen	Hexadecimal Range	Function
	-SERV-		Indicates operative Service Mode.
a.	AGC	00~3F	Auto Gain Control.
b.	AFT	00 ~ 7F	Auto Frequency Control
c.	H-SHFT	00 ~ 3F	Horizontal Position shift
d.	V-SHFT	00 ~ 3F	Vertical Position shift.
e.	V-AMPL	00-3F	Vertical Amplitude shift.
f.	V-SLOP	00 ~ 3F	Vertical Symmetry alteration.
g.	V-DLY	00-CF	VIDEO Delay.
h.	GAIN R	00 ~ 3F	Red Gain.
i.	GAIN G	00-3F	Green Gain.
j.	GAINB	00-3F	Blue Gain.
k.	NVM		Access to NVM memory.

6. For "a" thru j selections.
   Adjustment to a selection can be made by pressing buttons ∧ ◿ ∨ **).**
   A colour bar is displayed on the OSD to indicate the adjustment position, together with hexadecimal numbers (Not for Gil adjustment).



For "k" Selection.
NVM storage location settings variants.



In order to have access to the desired storage location, buttons ∧ ◿ ∨
a higher or lower location, respectively. Bear in mind that, for storage location indication a hexadecimal numerical system is used, instead of a decimal system.
0,1,2,3,4,5,6,7,8,9,A,B,C,D,E,F, 10, 11, ...19, 1A, 1B, 1C, 1D, 1E,1F, 20, 21,..... 99, 9A, 9B, 9C, 9D, 9E, 9F, AO, A1, ... **BO,..... CO, ... DO, ... EO, ... FO, F1, F2, F3,** F4, F5, **F6, F7, F8, F9,** FA, FB, FC, FD, FE,FF.
From the last location FF to the first 00 can be reached by increasing and from first to last by decreasing. Once the storage location to be varied has been selected, its value can be modified by the bits that form part of the storage location numerical buttons, numbers [0] to \7\, respectively. This switches its binary number from and between 0 and 1 each time one **of** the buttons is Dressed.

[0] = 2⁰ 1, [1] = 2 ¹=2, [2] = 2 ² = 4, ...

DD (HEX)	DESCRIPTION
00	RED COLOUR TEMPERATURE
01	GREEN COLOUR TEMPERATURE
02	BLUE COLOUR TEMPERATURE
03	VERTICAL SHIFT
04	HORIZONTAL SHIFT
05	VERTICAL AMPLITUDE
06	VERTICAL SLOPE
07	LUMA DELAY PAL
08	LUMA DELAY SECAM
09	S-CORRECTION
OA	AGC
OB	OPTIONS: INGOSD| A F CHL PAL UHF TJ-OCK AV-F FP 7 6 5 4 3 2 1 0 0: FP: SYSTEM B/G (0) - B/G+L, MESSAGE RECHERCHE (1) 1: AV FRONTAL: NOT INCLUDED (0) , INCLUDED (1) 2: TUNING LOCK (HOTEL): LOCKED+SWITCH-ON PR1 (1), NO LOCKED (0) 3: UHF-ONLY: BAND UHF (1) - ALL BANDS (0) 4: PAL ONLY (1), PAL+SECAM (0) 5: CHILD LOCK: CHILD LOCK ACTIVE (1) CHILD LOCK NO ACT (0) 6: AUTO FIRST: TUNING FIRST MENU: AUTO (1) MANUAL (0) 7: INGOSD: OSDJNGLES (1) OSD-SYMBOL (0) VALUE=60H
OC	AFT ADJUSTMENT VALUE (B/G, L SYSTEMS)
OD	AFT ADJUSTMENT VALUE (L' SYSTEM)
OE	MAXIMUM VOLUME LIMIT
OF	FIRM
10	RED COLOUR TEMPERATURE
11	GREEN COLOUR TEMPERATURE
12	BLUE COLOUR TEMPERATURE
13	VERTICAL SHIFT
14	HORIZONTAL SHIFT
15	VERTICAL AMPLITUDE
16	VERTICAL SLOPE
17	LUMA DELAY PAL
18	LUMA DELAY SECAM
19	S-CORRECTION
1A	AGC

1B	OPTIONS:
	INGOSD AF CHL PAL UHF TLOCK AVF FP
	7 6 5 4 3 2 1 0
	0: FP: SYSTEM B/G (0) - B/G+L, MESSAGE RECHERCHE (1)
	1: AV FRONTAL: NOT INCLUDED (0), INCLUDED (1)
	2: TUNING LOCK (HOTEL): LOCKED+SWITCH-ON PR1 (1), NO LOCKED (0)
	3: UHF-ONLY: BAND UHF (1) - ALL BANDS (0)
	4: PAL ONLY (1), PAL+SECAM (0)
	5: CHILD LOCK: CHILD LOCK ACTIVE (1) CHILD LOCK NO ACT (0)
	6: AUTO FIRST: TUNING FIRST MENU: AUTO (1) MANUAL (0)
	7: INGOSD: OSDJNGLES (1) OSDSYMBOL (0) VALUE==60H
1C	AFT ADJUSTMENT VALUE (B/G, L SYSTEMS)
1D	AFT ADJUSTMENT VALUE (L SYSTEM)
1E	MAXIMUM VOLUME LIMIT
1F	FIRM
20	RED COLOUR TEMPERATURE
21	GREEN COLOUR TEMPERATURE
22	BLUE COLOUR TEMPERATURE
23	VERTICAL SHIFT
24	HORIZONTAL SHIFT
25	VERTICAL AMPLITUDE
26	VERTICAL SLOPE
27	LUMA DELAY PAL
28	LUMA DELAY SECAM
29	S-CORRECTION
2A	AGC
2B	OPTIONS:
	INGOSD AF CHL PAL UHF TLOCK AVF FP
	7 6 5 4 3 2 1 0
	0: FP: SYSTEM B/G (0) - B/G+L, MESSAGE RECHERCHE (1)
	1: AV FRONTAL: NOT INCLUDED (0), INCLUDED (1)
	2: TUNING LOCK (HOTEL): LOCKED+SWITCH-ON PR1 (1), NO LOCKED (0)
	3: UHF-ONLY: BAND UHF (1) - ALL BANDS (0)
	4: PAL ONLY (1), PAL+SECAM (0)
	5: CHILD LOCK: CHILD LOCK ACTIVE (1) CHILD LOCK NO ACT (0)
	6: AUTO FIRST: TUNING FIRST MENU: AUTO (1) MANUAL (0)
	7: INGOSD: OSDJNGLES (1) OSDSYMBOL (0) VALUE=60H
2C	AFT ADJUSTMENT VALUE (B/G, L SYSTEMS)
2D	AFT ADJUSTMENT VALUE (L SYSTEM)
2E	MAXIMUM VOLUME LIMIT
2F	FIRM
30	TABLE LONG
31	FIRM
32	AGING ON. AUTOMATIC SWITCH ON.
33	SWITCH ON DELAY TIME

34	VOLUME
35	CONTRAST
36	COLOUR
37	BRIGHTNESS
38	PEAKING (RANGE: 0-3FH)
39	ACTUAL PROGRAMM
3A	TV STATE ON/OFF
38	HUE
3C	CONTRAST (FACTORY PRESET)
3D	COLOUR (FACTORY PRESET)
3E	BRIGHTNESS (FACTORY PRESET)
3F	PEAKING (RANGE: 0-3FH)(FACTORY PRESET)
40	ON TIMER LAST VALUE
41	OFF TIMER LAST VALUE
42	OSD STATE BIT 0: PICTURE NORM ON/OFF BIT 1 : SCART/AV LOCKED BIT 2: FRONTAL LOCKED BIT 3: ROW 8/30 PERM.(RESERVED-PROG. INTERNALLY) BIT 4: PIN NUMBER OPTION (0-NOT APPEAR, 1-APPEAR) BIT 5: CLOCK STATE (PROGRAMMED INTERNALLY) BIT 6: ELIMINATE VERTICAL WHITE BARS IN MENUS BIT 7: (1) REALTIMER + ALARM / (0) ONTIMER VALUE=51H
43	BKGD USER'S CORRECTION (NOT USED IN THIS MODEL)
44	BKGD USER'S CORRECTION PRESET VALUE (NORMALIZED) (")
45	VOLTAGE LIMIT BETWEEN L'-L SYSTEM (MSB)
46	VOLTAGE LIMIT BETWEEN L'-L SYSTEM (LSB)
47	HORIZONTAL OSD OFFSET BIT 7: DIRECTION SIGN: (0) INCREASE (1) DECREASE BIT 6: DON'T CARE BIT 5 - BIT 0: OFFSET VALUE
48	PROG SEARCH SPEED ALL BAND -HIGH NIBBLE CMPLEMENTED-
49	PROG SEARCH SPEED (VHL BAND) -HIGH NIBBLE CMPLEMENTED-
4A	PROG SEARCH SPEED (VHL BAND) -HIGH NIBBLE CMPLEMENTED-
4B	PROG SEARCH SPEED (VHH BAND) -HIGH NIBBLE CMPLEMENTED-
4C	CHANNEL RANGE IN FACTORY AUTOINSTALL
4D	PASSWORD ON (1)/OFF (0)
4E	PASSWORD FIRST DIGIT
4F	PASSWORD SECOND DIGIT
50	PASSWORD THIRD DIGIT
51	PASSWORD FOURTH DIGIT
52	FREE

53	OSDWORD 1: BIT 0:OSD PROG SIZE. 0= LARGE (14") 1=SHORT (21-) BIT 1 :OSD PROG DISPLAYED TIME. 0=SHORT TIME / 1 = LONG TIME
54	RED REFERENCE FOR AUTO BKGD ADJUSTMENT
55	GREEN REFERENCE FOR AUTO BKGD ADJUSTMENT
56	BLUE REFERENCE FOR AUTO BKGD ADJUSTMENT
57	CONTROL2: OSO, VSD, CB, BLS, BKS, CS1, CSO, BB VALUE= 9AH
58	CONTROL3: HOB, BPS, ACL, CMB, AST, CL2, CL1, CLO VALUE= 24H
59	VERTICAL ZOOM APPROX. VALUE-ODH
5A	VERTIVAL SCROLL APPROX. VALUE= 20H
5B	CONTROL0: INA, INB, INC, CCC-D, FOA, FOB, XA, XB VALUE=1AH
5C	CONTROL,-!: FORF, FORS, DL, STB, POC, CM2, CM1, CMO VALUE=COH
5D	CONTROL5: EVG, HCO, LBM, VID, STM, NCIN, VIM, AKB VALUE=26H
5E	CONTROL6: IFS, AFW, IE1, COR, RBL, MAT, PRD, SBL VALUE=3CH
5F	CONTROL7: EVSINC, EBS, FFI, HBL, GAI, IE2, DS, DSA VALUE=OOH
60	NOT USED
61-FF	PROGRAMS (0-52)
100-18Dh	PROGRAMS (53-99)

PIF/AGC Adjustment

1. VCO + AFT Adjustment

   1. Connect the output of SSG (Standard Signal Generator) to the tuner IF output terminal.
      - SSG output: 38.9 MHz (CW) ±5 kHz).
      - SSG output level: approx. 90 dB^iV.
   2. Enter into Service Mode.
   3. Push CH A until AFT appears.
   4. Press 0-n button on R/C. Setting is made automatically. During this setting the colour bar shall go from red to yellow. When setting is finished, colour bar disappears and B-STOP (bus stop) is shown **on** screen.
   5. Switch set OFF and ON again, setting is now memorized.

2. RF-AGC Cut-in Adjustment (I2C BUS)

   1. Receive the "COLOUR BAR" signal (Channel E-12).
      - Signal strength: 60 dB|AV.
   2. Enter into Service Mode.
   3. Push CH A until AGC appears.
   4. Press On button on R/C. Setting is made automatically. During this setting the colour bar shall go from red to yellow. When setting is finished, colour bar disappears and B-STOP (bus stop) is shown on screen.
   5. Switch set OFF and ON **again, setting is now memorized.**

Screen Adjustment

3. Focus Adjustment

   1. Apply mains voltage of 220 V AC/50 Hz to TV.
   2. Receive Phillips pattern signal to a level between 60 and 80 dBj^V.
   3. Set contrast to 10/10, brightness to 5/10 and colour 0/10.
   4. Adjust focus potentiometer to obtain maximum definition.

4. G2 Adjustment

   1. Apply mains voltage of 220 V AC/50 Hz to TV.
   2. Receive MONOSCOPE PATTERN signal to a level between 60 and 80 dB^V.
   3. Enter into Service Mode. Press the TEXT key of R/C and set to level.
   4. Set to the point where the raster disappears on the screen VR of FBT.

• GEOMETRY ADJUSTMENT PROCEDURE

1. H-SHFT

a) Receive Philips pattern signal.
b) When </\ button is pressed, picture moves to the left.
c) When <V button is pressed, picture moves to the right.
d) Adjust the horizontal location to obtain picture centering (fig. **1)**

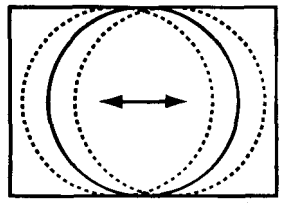


Fig.1

2. V-SHFT

a) Receive Philips pattern signal.
b) When </\ button is pressed, picture moves up.
c) When <V button is pressed, picture moves down.
d) Adjust the horizontal location to obtain picture centering (fig. 2)

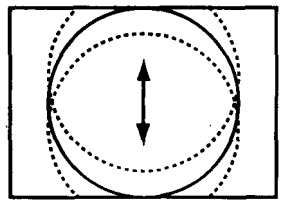


Fig.2

3. V-AMPL

a) Recive Philips pattern signal.
b) When </\ button is pressed, vertical size of picture increases.
c) When <V button is pressed, vertical size of picture decreases.
d) Adjust the vertical size to obtain overscan (fig. 3).

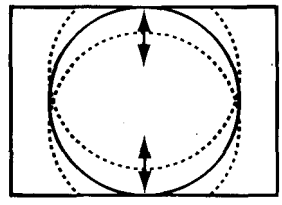


Fig.3

4. V-SLOP

a) Receive Philips pattern signal.
b) When </\ button is pressed, upper picture scanning decreases and lower picture scanning increases.
c) When <V button is pressed, upper picture scanning increases and lower picture scanning decreases.
d) Adjust the vertical symmetry to obtain symmetrical scanning between upper and lower picture (fig. 4).

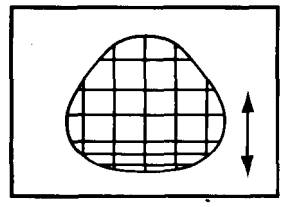


Fig.4

COLOUR ADJUSTMENT

5. V-DLY

a) Receive Philips pattern signal.
b) When ◿/\ button is pressed, luma phase delays.
c) When ◿\/ button is pressed, chroma phase delays.
d) Adjust the chroma-luma delay.

The following adjustments are only required when the Picture Tube is changed.

6. "GAIN R", "GAIN G", "GAIN B".

a) Adjust G2.
b) Tune in white card.
c) Adjust colour to minimum.
d) Position colourmeter in the center of screen.
e) Using brightness and contrast buttons, select a luminance of 120 nits.
f) Operate again in Service Mode and select location GAIN R, GAIR B to obtain colour coordinates:
X= 0.290 ±0.015
Y= 0.284 ±0.015
g) Exit Service Mode and check colour coordinates 'X' and 'Y' at 20 and 120 NITS. It may be necessary to repeat procedure.

NOTE:

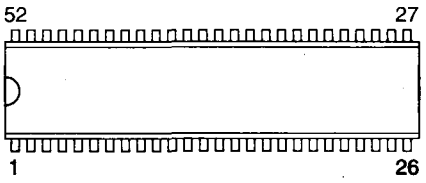
Locations: GAIN R alter 'X' coordinate; GAIN G alter the 'Y' coordinates; GAIN B alter the 'X' and "/'coordinates.

• CHILD LOCK CANCEL

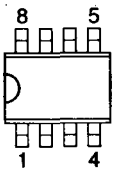
The following process describes how to cancel actual password (PIN) when the customer forgets code.

1 Switfh ON TV Set-
2, Press butter ⋁◿ on TV and °TI on R/C simultaneously.
3. Press MENU button on R/C to input menu.
4. Using buttons ⋀ CH ⋁ move to o-n position.
5. Press MENU button again.
6. Select PIN and input new PIN (Please do not forget **it)**
7. Select EXIT and press MENU button again.

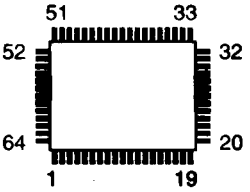
SOLID STATE DEVICE BASE DIAGRAM



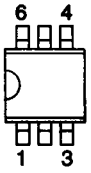
RH-IX1632BMN1



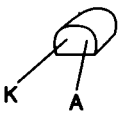
CH-IX1667CJC0
(SMD COMPONENT)



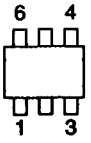
RH-IX1631BMZZ
(SMD COMPONENT)



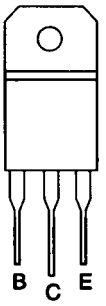
RH-FX0106BMZZ
(SMD COMPONENT)



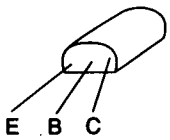
RH-IX0037CEZZ



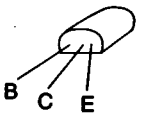
VSiMT1A/A//-1
(SMD COMPONENT)



RH-TX0132BMZZ



RH-TX0102BMZZ
RH-TX0104BMZZ
RH-TX0105BMZZ
RH-TX0142BMZZ
RH-TX0130BMZZ



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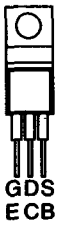
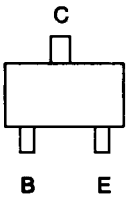
RH-TX0112BMZZ
RH-TX0118BMZZ
RH-TX0131 BMZZ
RH-TX0181 BMZZ
RH-TX0180BMZZ

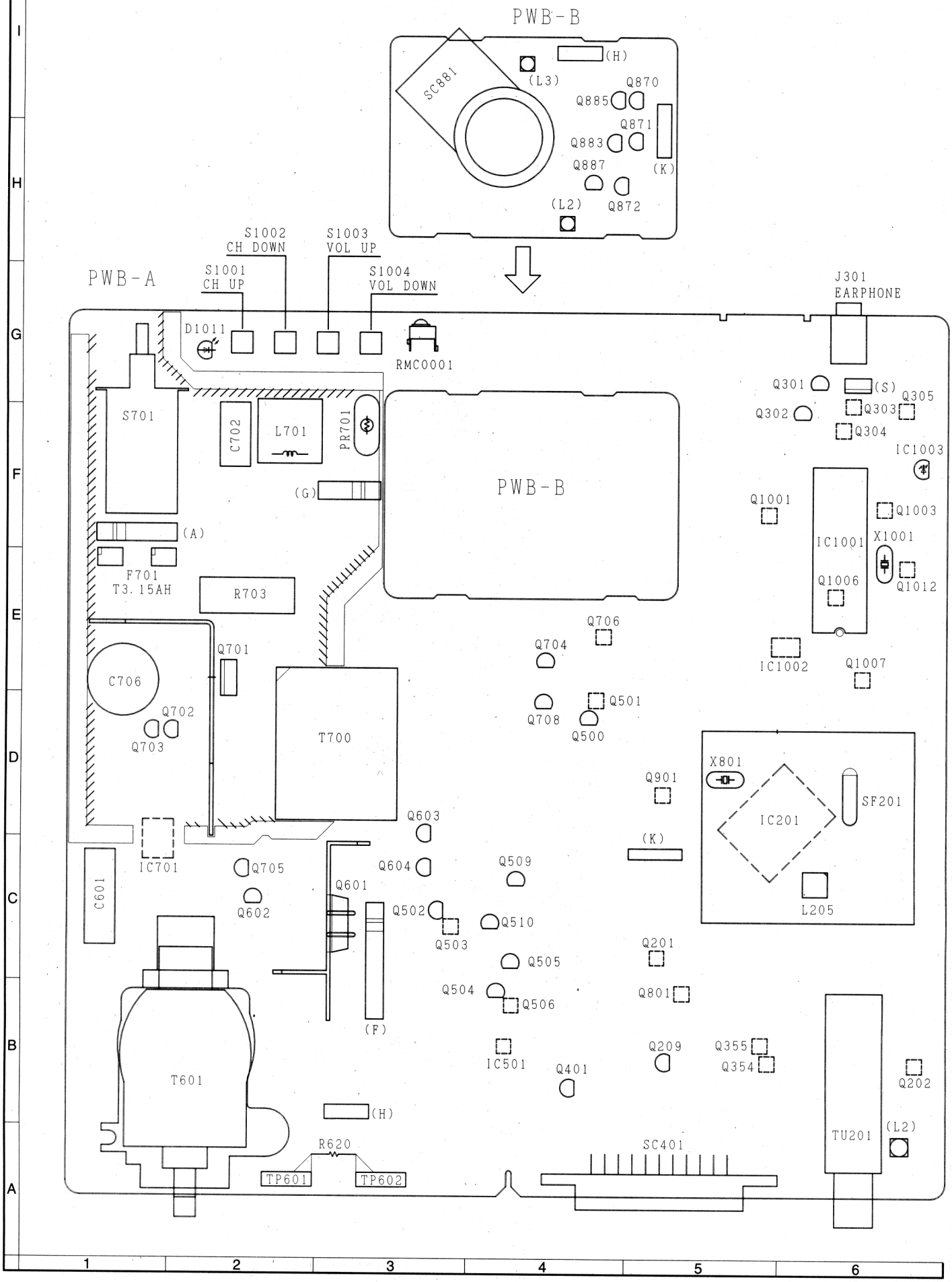


RH-TX0128BMZZ
RH-TX0141BMZZ
RH-TX0141BMZZ

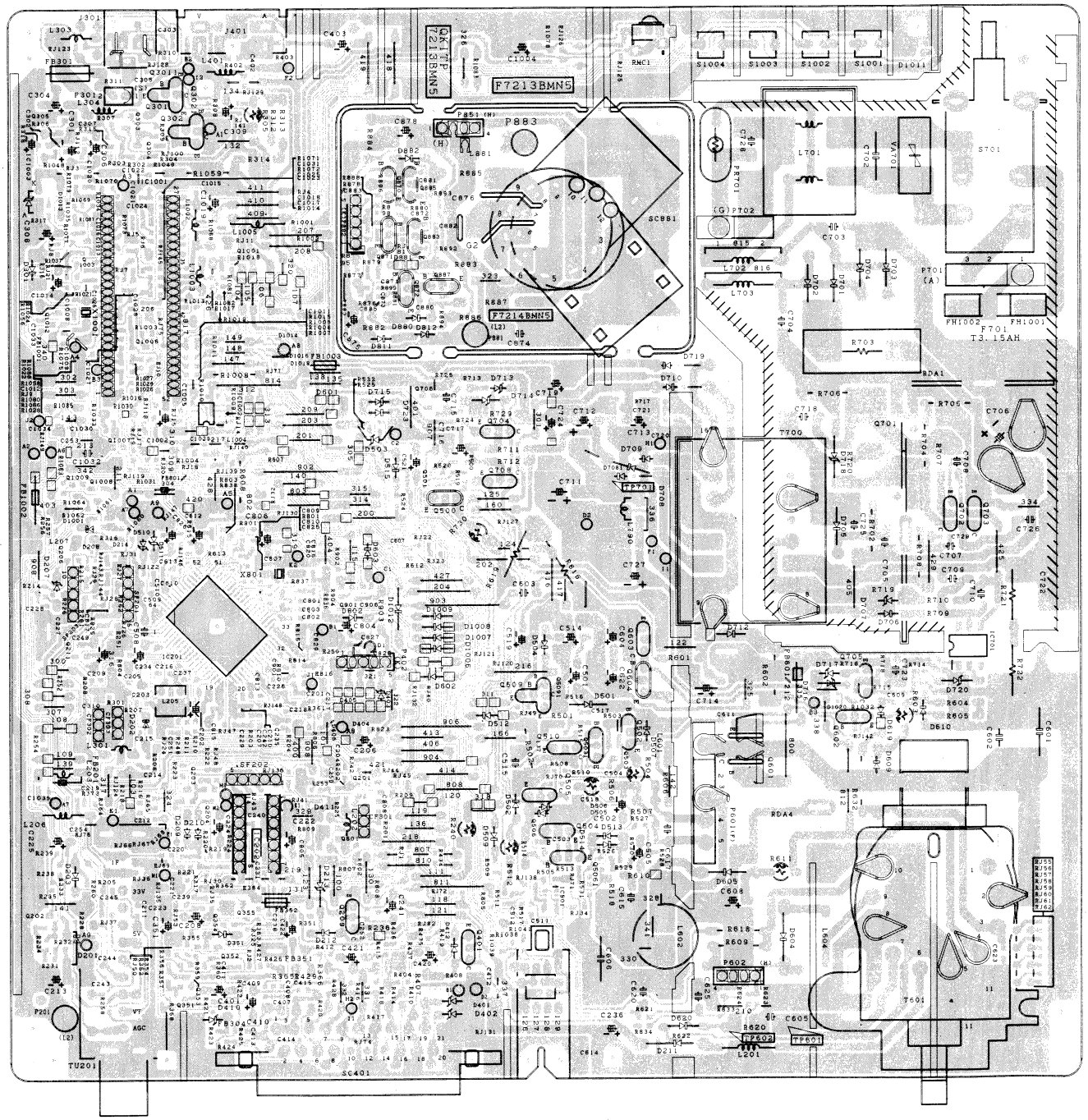


VS2SA1037KQ-1
VS2SC2412KQ-1
(SMD COMPONENT)

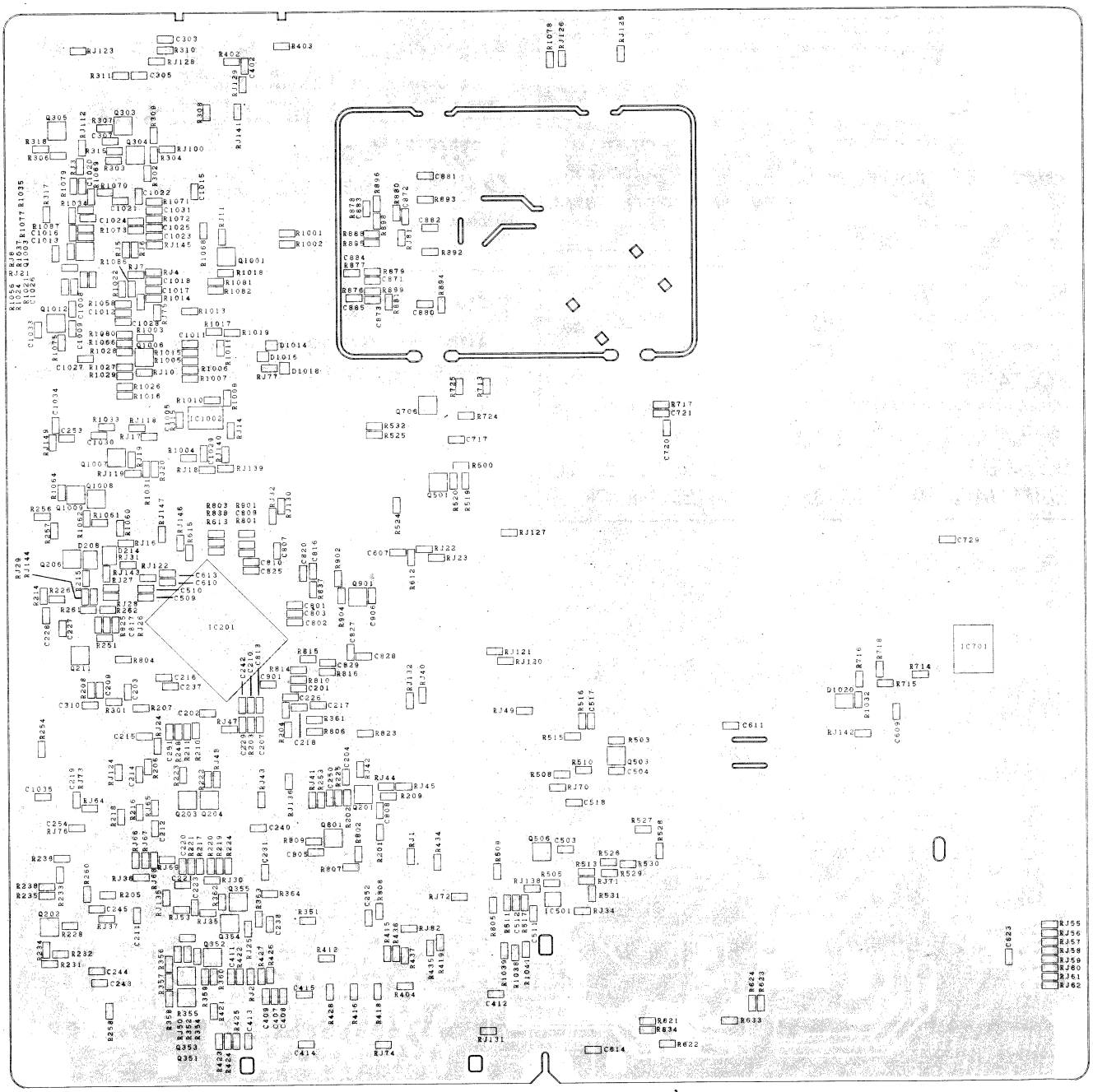
CHASSIS LAYOUT



PRINTED WIRING BOARDS



PRINTED WIRING BOARDS



DESCRIPTION OF SCHEMATIC DIAGRAM

SAFETY NOTE:

1. DISCONNECT THE AC PLUG FROM THE AC OUTLET BEFORE REPLACEING PARTS.

2. SEMICONDUCTOR HEAT SINKS SHOULD BE REGARDED AS POTENTIAL SHOCK HAZARDS WHEN THE CHASSIS IS OPERATING.

IMPORTANT SAFETY NOTICE:

PARTS MARKED WITH "A" ( ) ARE IMPORTANT FOR MAINTAINING THE SAFETY OF THE SET. BE SURE TO REPLACE THESE PARTS WITH SPECIFIED ONES FOR MAINTAINING THE SAFETY AND PERFORMANCE OF THE SET.

SERVICE PRECAUTION:

THE AREA ENCLOSED BY THIS LINE (• •) IS DIRECTLY CONNECTED WITH AC MAINS VOLTAGE.

WHEN SERVICING THE AREA, CONNECT AN ISOLATING TRANSFORMER.

BETWEEN TV RECEIVER AND AC LINE TO ELIMINATE HAZARD OF ELECTRIC SHOCK.

NOTE:

1. The unit of resistance "ohm" is omitted (K=1000 ohms, M=Magaohm).
2. All resistors are 1/8 watt, unless otherwise noted.
3. All capacitors are U.F, unless otherwise noted (P=^F).
4. The capacitor with Part No. RC-FZ9XXXBMNJ is designed to withstand 63V.

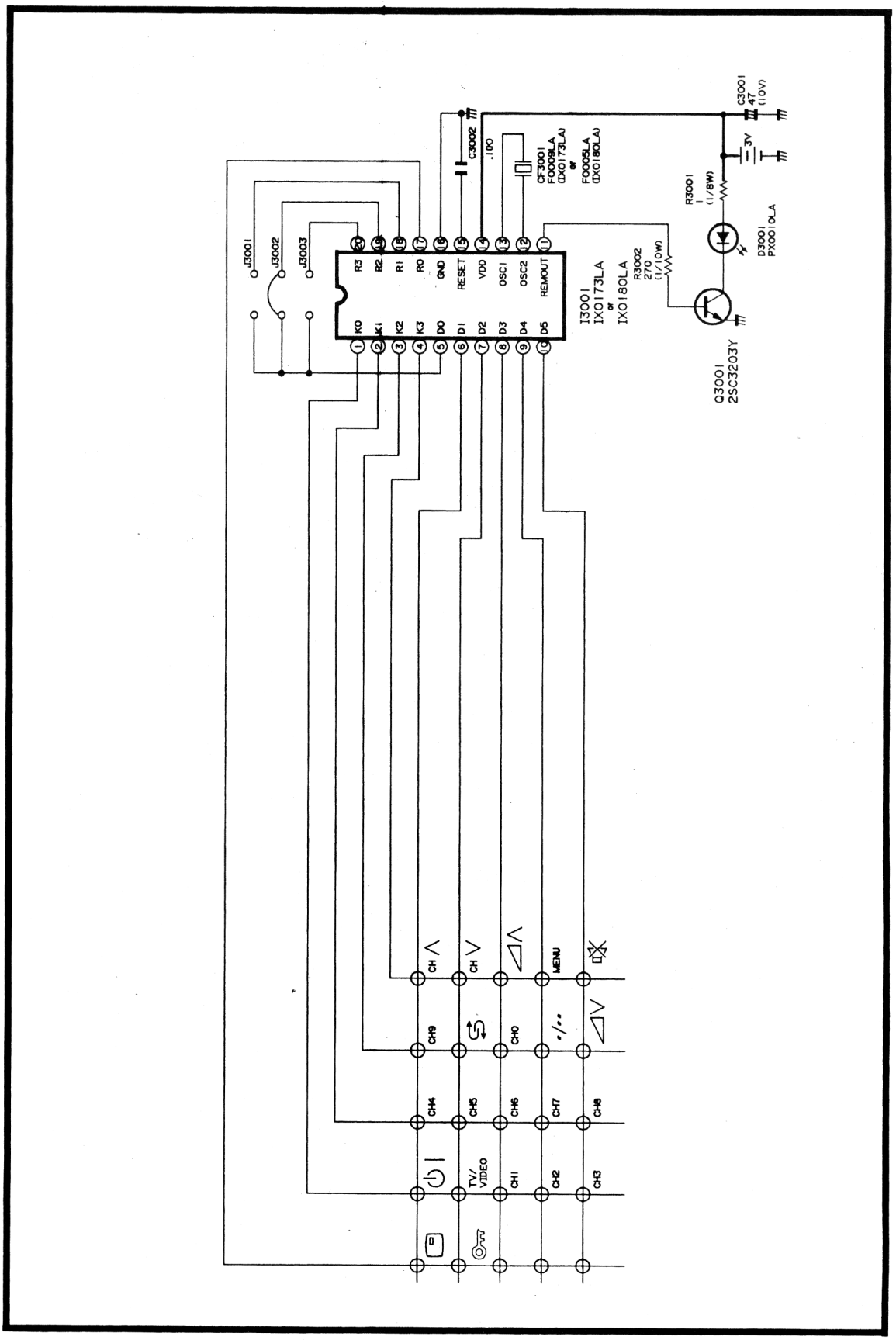
WAVEFORM MEASUREMENT CONDITIONS:

Colour bar generator signal of 70 dB from RF input.

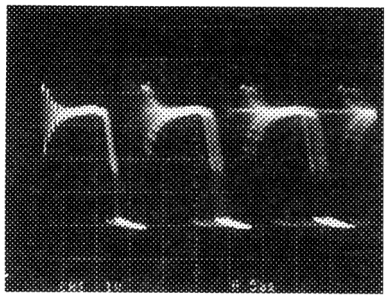
CAUTION:

This circuit diagram is original one, therefore there may be a slight difference from yours.

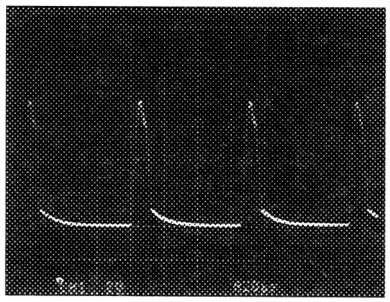
REMOTE CONTROL TRANSMITTER CIRCUIT



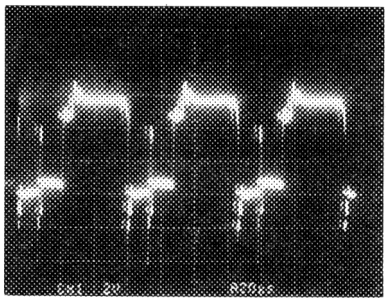
WAVE FORMS



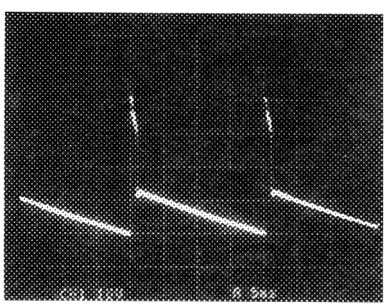
① 100 : 1



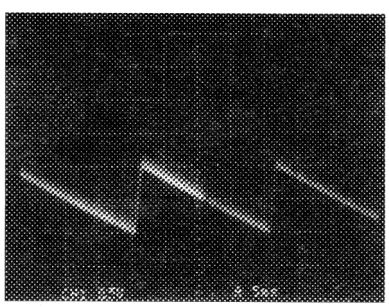
② 780V p-p 100 : 1



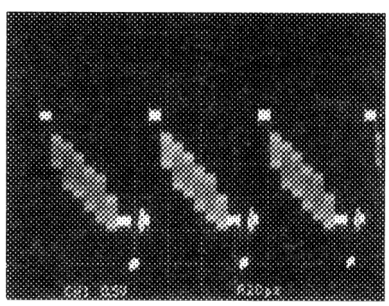
③



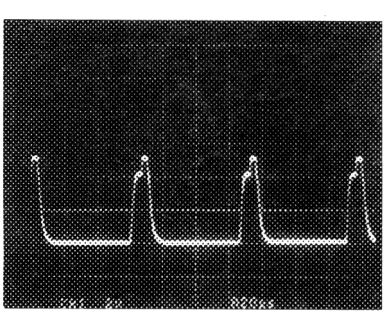
④ 40.1Vp-p



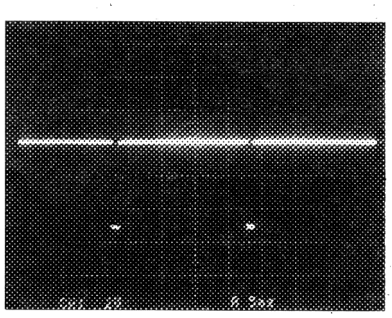
⑤ 1Vp-p



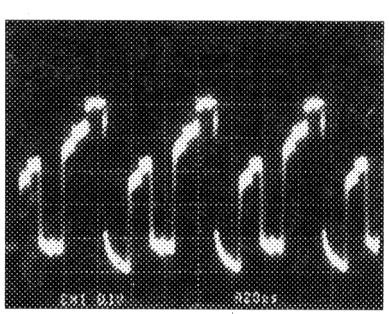
⑥



⑦

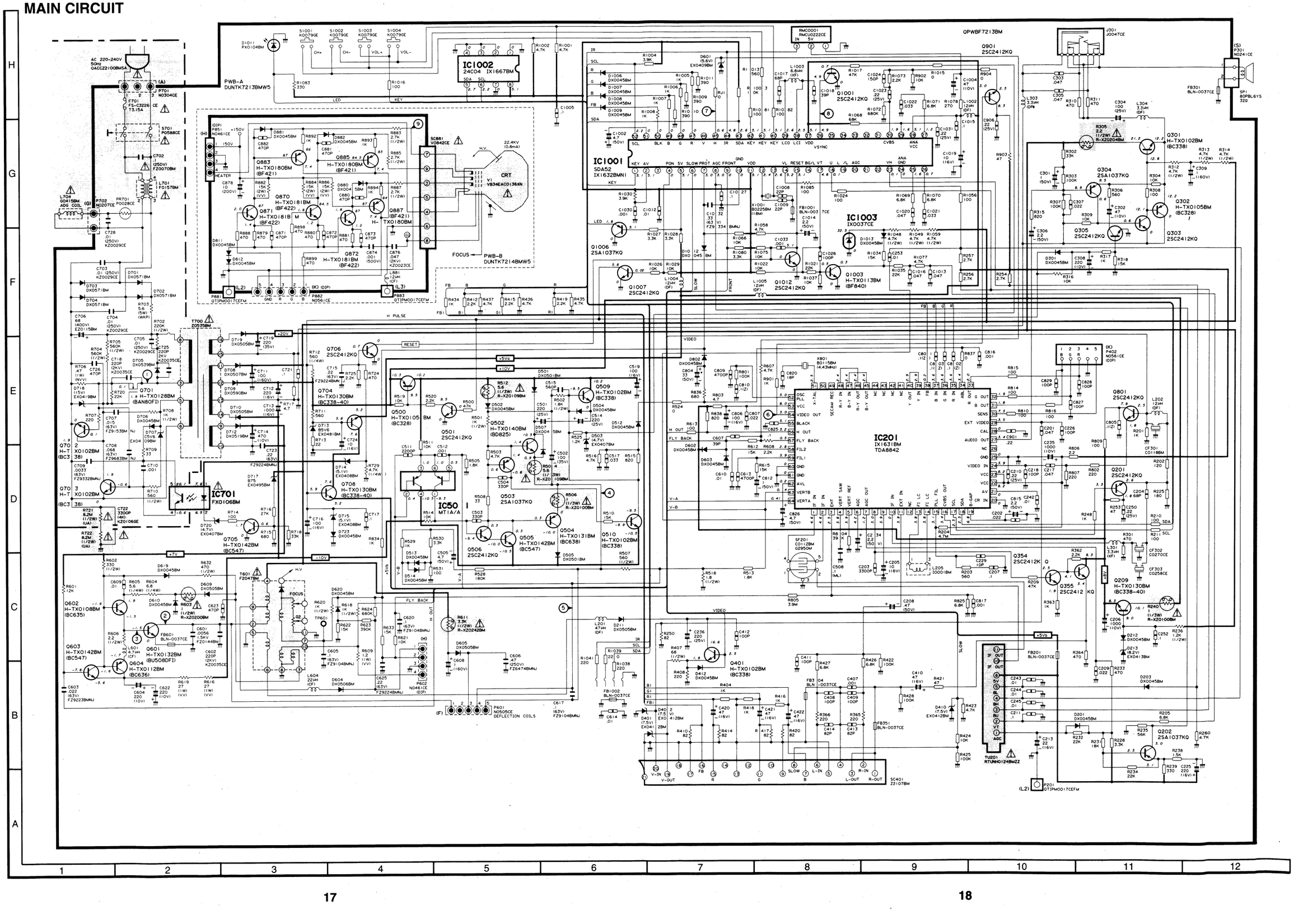


⑧ 5Vp-p

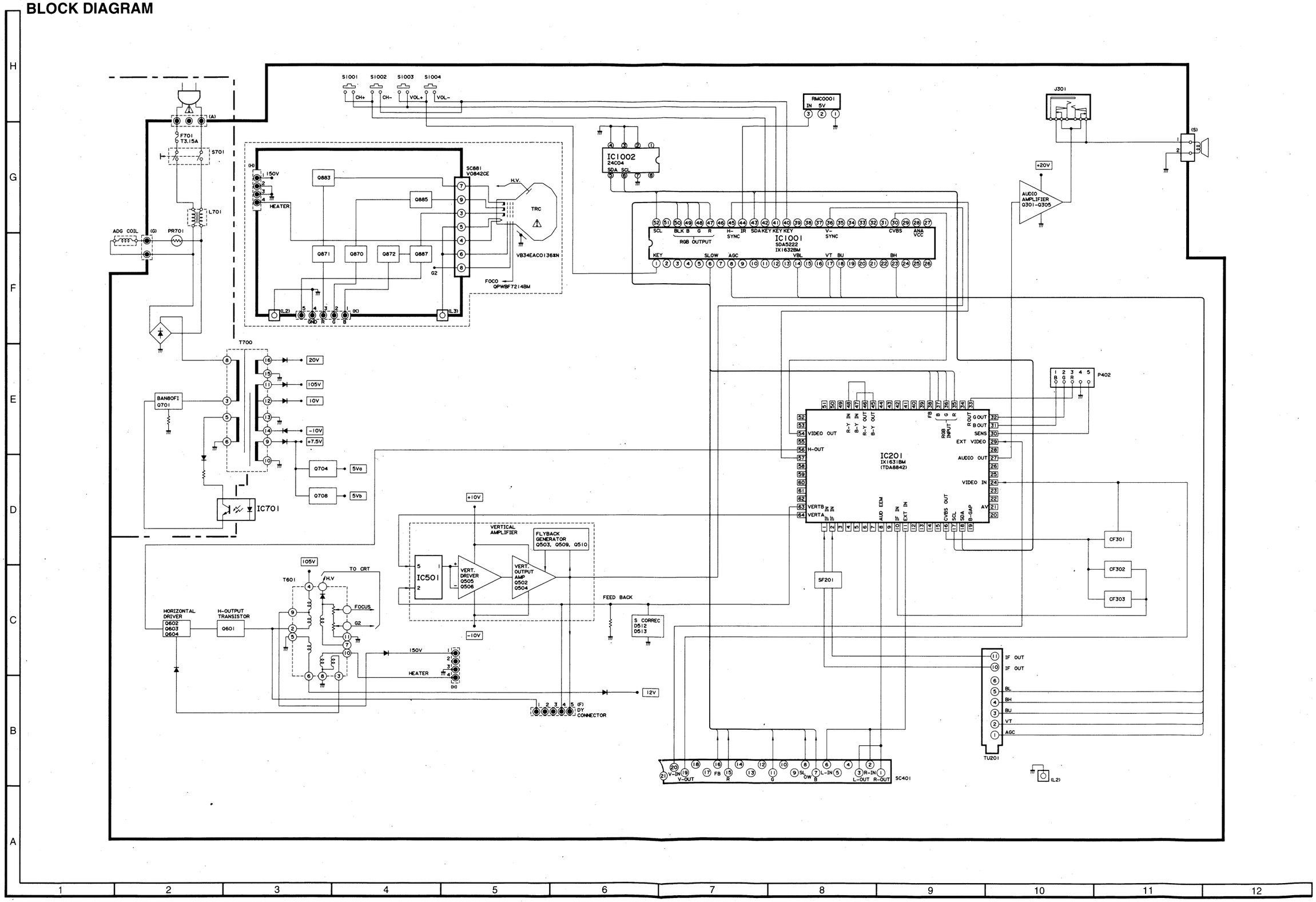


⑨ 50.6Vp-p 100 : 1

MAIN CIRCUIT



BLOCK DIAGRAM



PARTS LIST

PARTS REPLACEMENT

Replacement parts which have these special safety characteristics idei-F tified in this manual: electrical components having such features are identified by A in the Replacement Parts Lists.
The use of a substitute replacement part which does not have the same safety characteristics as the factory recommended replacement parts shown in this service manual may create shock, fire or **other** hazards.

"HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish **the** following informations.

1. MODEL NUMBER 2. REF. NO.
3. PART NO. 4. DESCRIPTION
5. CODE 6. QUANTITY

MARK*: SPARE PARTS-DELIVERY SECTION

Ref. No.	Part No.	*	Description	Code

PICTURE TUBE

A	VB34EAC0136*N	S	Picture Tube	CD
A	RCILG0415BMZZ	S	Degaussing Coil	AM
	QEARC0002BMZZ	S	Ground-Part	—
	MSPRT0001CEFJ	R	Spring	AA
	LX-TZ3502BMFW	S	Screw	—
	PSPAG1000BMOO	S	Spacer	—

PRINTED WIRING BOARD ASSEMBLIES (NOT REPLACEMENT ITEM)

	DUNTK7213BMW5	S	Mother Unit	—
	DUNTK7214BMW5	S	CRT Socket Unit	—

PWB-A DUNTK7213BMW5 MOTHER UNIT

TUNER

(VOTE: *THE PARTS HERE SHOWN ARE SUPPLIED AS AN ASSEMIBLY BUT NOT INDEPENDENTLY.*

A	TU201	RTUNH0124BMZZ	S	Tuner	BA

INTEGRATED CIRCUITS

	IC201	RH-iX1631BMZZ	S	I.C.	BA
	IC501	VHiMT1A/A//-1	R	I.C.	AB
A	IC701	RH-FX0106BMZZ	S	Photo Coupler	AD
	IC1001	RH-iX1632BMN1	S	I.C.	AV
	1C1002	RH-iX1667BMZZ	S	I.C.	AG
	IC1003	RH-iX0037CEZZ	R	Upc574J	AF

TRANISI!STOPS

0201	VS2SC2412KQ-1	R	2SC2412	AA
Q202	VS2SA1037KQ-1	R	2SA1037	AA
0209	RH-TX0130BMZZ	S	BC338-40	AB
0301	RH-TX0102BMZZ	S	BC338	AB
0302	RH-TX0105BMZZ	S	BC328	AB
0303	VS2SC2412KQ-1	R	2SC2412	AA
0304	VS2SA1037KQ-1	R	2SA1037	AA
0305	VS2SC2412KQ-1	R	2SC2412	AA
0354	VS2SC2412KQ-1	R	2SC2412	AA
0355	VS2SC2412KQ-1		[illegible]	AA
0401	RH-TX0102BMZZ	S	BC338	AB
Q500	RH-TX0105BMZZ	S	BC328	AB
0501	VS2SC2412KQ-1	R	2SC2412	AA
0502	RH-TX0140BMZZ	S	BD825	AC
Q503	VS2SA1037KQ-1	R	2SA1037	AA
0504	RH-TX0131BMZZ	S	BC638	AC
0505	RH-TX0142BMZZ	S	BC547	AB
0506	VS2SC2412KQ-1	R	2SC2412	AA
0509	RH-TX0102BMZZ	S	BC338	AB
0510	RH-TX0102BMZZ	S	BC338	AB
0601	RH-TX0132BMZZ	S	BU508DF1	AM
0602	RH-TX0108BMZZ	S	BC635	AC
0603	RH-TX0142BMZZ	S	BC547	AB
0604	RH-TX0112BMZZ	S	BC636	AB
0701	RH-TX0128BMZZ	S	BAN80F1	AM
0702	RH-TX0102BMZZ	S	BC338	AB
0703	RH-TX0102BMZZ	S	BC338	AB
0704	RH-TX0130BMZZ	S	BC338-40	AB
0705	RH-TX0142BMZZ	S	BC547	AB
0706	VS2SC2412KQ-1	R	2SC2412	AA
0708	RH-TX0130BMZZ	S	BC338-40	AB
0801	VS2SC2412KQ-1	R	2SC2412	AA
0901	VS2SC2412KQ-1	R	2SC2412	AA
01001	VS2SC2412KQ-1	R	2SC2412	AA

Ref. No.	Part No.		Description	Code
	PWB-A DUr*fT*\K7213BMW5			
	MOTHER Ur*W*'(Continued)			
	TRANSISTORS (Continued)			
Q1003	RH-TX0113BMZZ	S	Transistor	AC
01006	VS2SA1037KQ-1	R	2SA1037	AA
Q1007	VS2SC2412KQ-1	R	2SC2412	AA
Q1012	VS2SC2412KQ-1	R	2SC2412	AA
	DIODESiAf^*DLEO'S*			
D201	RH-DX0045BMZZ	S	Diode IN4148	AA
D203	RH-DX0045BMZZ	S	Diode IN4148	AA
D211	RH-DX0505BMZZ	S	Diode	AB
D212	RH-DX0045BMZZ	S	Diode IN4148	AA
D213	RH-EX0413BMZZ	S	Zener Diode, 8.2V	AB
D301	RH-DX0045BMZZ	S	Diode IN4148	AA
D401	RH-EX0412BMZZ	S	Zener Diode	AB
D402	RH-EX0412BMZZ	S	Zener Diode	AB
D410	RH-EX0412BMZZ	S	Zener Diode	AB
D412	RH-DX0045BMZZ	S	Diode IN4148	AA
D501	RH-DX0501BMZZ	S	Diode	AA
D502	RH-DX0045BMZZ	S	Diode IN4148	AA
D503	RH-EX0407BMZZ	S	Zener Diode	AB
D504	RH-DX0045BMZZ	S	Diode IN4148	AA
D505	RH-DX0501BMZZ	S	Diode	AA
D507	RH-DX0045BMZZ	S	Diode IN4148	AA
D512	RH-DX0045BMZZ	S	Diode IN4148	AA
D513	RH-DX0045BMZZ	S	Diode IN4148	AA
D514	RH-DX0045BMZZ	S	Diode IN4148	AA
D601	RH-EX0409BMZZ	S	Zener Diode	AA
D602	RH-DX0045BMZZ	S	Diode IN4148	AA
D603	RH-DX0045BMZZ	S	Diode IN4148	AA
D604	RH-DX0506BMZZ	S	Diode	AB
D605	RH-DX0505BMZZ	S	Diode	AB
0609	RH-DX0505BMZZ	S	Diode	AB
D610	RH-DX0045BMZZ	S	Diode IN4148	AA
D619	RH-DX0045BMZZ	S	Diode IN4148	AA
D620	RH-DX0045BMZZ	S	Diode IN4148	AA
D701	RH-DX0571BMZZ	S	Diode	AA
D702	RH-DX0571 BMZZ	S	Diode	AA
D703	RH-DX0571BMZZ	S	Diode	AA
D704	RH-DX0571BMZZ	S	Diode	AA
D705	RH-DX0539BMZZ	S	Diode	AC
D706	RH-DX0045BMZZ	S	Diode IN4148	AA
D707	RH-EX0409BMZZ	S	Zener Diode, 5.6V	AA
D708	RH-DX0507BMZZ	S	Diode	AB
D709	RH-DX0590BMZZ	S	Diode	
D710	RH-DX0505BMZZ	S	Diode	AB
D712	RH-DX0519BMZZ	S	Diode	AD
D713	RH-EX0481BMZZ	S	Zener Diode	AB
D714	RH-EX0408BMZZ	S	Zener Diode, 5.1V	AB
D715	RH-EX0408BMZZ	S	Zener Diode, 5.1V	AB
D717	RH-EX0495BMZZ	S	Zener Diode	AB
D718	RH-EX0419BMZZ	S	Zener Diode, 15V	AB
D719	RH-DX0505BMZZ	S	Diode	AB
D720	RH-EX0407BMZZ	S	Zener Diode, 4.7V	AB
D723	RH-DX0045BMZZ	S	Diode IN4148	AA
D802	RH-DX0045BMZZ	S	Diode IN4148	AA
D1006	RH-DX0045BMZZ	S	Diode	AA
D1007	RH-DX0045BMZZ	S	Diode IN4148	AA
D1008	RH-DX0045BMZZ	S	Diode IN4148	AA
D1009	RH-DX0045BMZZ	S	Diode IN4148	AA
D1011	RH-PX0104BMZZ	S	Photodiode	AC
D1012	RH-DX0045BMZZ	S	Diode IN4148	AA
D1013	RH-DX0045BMZZ	S	Diode IN4148	AA
	PACKAGE;D CIRCUITS			
PR701	RMPTP0028CEZZ	S	Packaged Circuit	AG
X801	RCRSB0115BMZZ	S	Crystal	AG
X1001	RCRSB0225BMZZ	S	Crystal	AM
	COILANDTRANSFORMERS			
CF301	RFiLC0118BMZZ	S	Filter	AF
CF302	RFiLC0270CEZZ	R	Filter	AD
CF303	RFiLC0258CEZZ	R	Filter	AD
L201	VP-DF470KOOOO	R	Peaking 47^iH	AB
L202	VP-DF120KOOOO	R	Peaking 12uH	AB
L205	RCiLiOOOIBMZZ	S	If Coil	AE
L301	VP-XF3R3KOOOO	R	Peaking 3.3^iH	AB
L303	VP-DF3R3KOOOO	R	Peaking 3.3p.H	AB
L304	VP-DF3R3KOOOO	R	Peaking 3.3|xH	AB
L601	VP-CF4R7KOOOO	R	Peaking 4.7|iH	AB
L604	VP-CF220KOOOO	R	Peaking 22p.H	AB
A L701	RCJLF0157BMZZ	S	Coil	AL
L1002	VP-DF120KOOOO	R	Peaking 12^H	AB
L1003	VP-XF6R8KOOOO	R	Peaking 6.8p,H	AB
L1004	VP-DF120KOOOO	R	Peaking 12^H	AB
L1005	VP-DF120KOOOO	R	Peaking 12uH	AB
SF201	RFJLC0112BMZZ	S	Filter	AP
A T601	RTRNF2047BMZZ	S	H-Volt Transformer	AY
AT700	RTRNZ0535BMZZ	S	Transformer	AR
	CAPACITORS			
C201	VCKYTV1HF473Z	R	0.047 50V Ceramic	AB
C202	VCKYTV1HB223K	R	0.022 50V Ceramic	AB
C203	VCKYTV1HB332K	R	3300p 50V Ceramic	AA
C204	VCCCTV1HH680J	R	68p 50V Ceramic	AA
C205	VCEAGA1CW106M	R	10 16V Electrolytic	AA
C206	VCEAGA1AW108M	R	1000 10V Electrolytic	AC
C207	VCKYTV1HF104Z	R	0.1 50V Ceramic	AA
C208	VCEAGA1HW474M	R	0.47 50V Electrolytic	AB
C209	VCKYTV1HB223K	R	0.022 50V Ceramic	AB
C210	VCKYTV1EF224Z	R	0.22 25V Ceramic	AA
C211	VCKYTV1HF104Z	R	0.1 50V Ceramic	AA
C213	VCEAGA1CW226M	R	22 16V Electrolytic	AB
C217	VCKYTV1HF473Z	R	0.047 50V Ceramic	AB
C218	VCCCTV1HH101J	R	100p 50V Ceramic	AA
C225	VCEAGA1CW227M	R	220 16V Electrolytic	AC
C226	VCCCTV1HH101J	R	100p 50V Ceramic	AA
C229	VCCCTV1HH100D	R	10p 50V Ceramic	AA
C234	VCEAGA1HW225M	R	2.2 50V Electrolytic	AB
C235	VCEAGA1AW108M	R	1000 10V Electrolytic	AC
C236	VCEAGA1EW227M	R	220 25V Electrolytic	AC
C242	VCKYTV1HF103Z	R	0.01 50V Ceramic	AA

Ret. No.	Part No.	Description	Code

PWB-A DUNTK7213BMW5
MOTHER UNIT (Continued)

CAPACITOFIS (Contiinuec1)

C243	VCKYTV1HF103Z	R	0.01	50V	Ceramic	AA
C244	VCKYTV1HF103Z	R	0.01	50V	Ceramic	AA
C245	VCKYTV1HF103Z	R	0.01	50V	Ceramic	AA
C250	VCKYTV1EF224Z	R	0.22	25V	Ceramic	AA
C252	VCKYTV1HF104Z	R	0.1	50V	Ceramic	AA
C253	VCKYTV1HF103Z	R	0.01	50V	Ceramic	AA
C301	VCEAGA1HW105M	R	1	50V	Electrolytic	AC
C302	VCEAGA1AW476M	R	47	10V	Electrolytic	AA
C303	VCKYTV1HF473Z	R	0.047	50V	Ceramic	AB
C304	VCEAGA1EW107M	R	100	25V	Electrolytic	AD
C305	VCKYTV1HF473Z	R	0.047	50V	Ceramic	AB
C306	VCEAGA1HW225M	R	2.2	50V	Electrolytic	AB
C307	VCKYTV1HB223K	R	0.022	50V	Ceramic	AB
C308	VCEAGA1 AW227M	R	220	10V	Electrolytic	AB
C407	VCKYTV1HB102K	R	1000p	50V	Ceramic	AA
C408	VCCCTV1HH101J	R	100p	50V	Ceramic	AA
C409	VCCCTV1HH101J	R	100p	50V	Ceramic	AA
C410.	VCEAGA1 CW476M	R	47	16V	Electrolytic	AB
C411	VCCCTV1HH101J	R	100p	50V	Ceramic	AA
C412	VCCCTV1HH101J	R	100p	50V	Ceramic	AA
C413	VCCCTV1HH820J	R	82p	50V	Ceramic	AA
C414	VCCCTV1HH820J	R	82p	50V	Ceramic	AA
C420	VCEAGA1 CW476M	R	47	16V	Electrolytic	AB
C421	VCEAGA1CW476M	R	47	16V	Electrolytic	AB
C422	VCEAGA1CW476M	R	47	16V	Electrolytic	AB
C501	VCEAGA1 EW227M	R	220	25V	Electrolytic	AC
C502	VCEAGA1 VW107M	R	100	35V	Electrolytic	AC
C503	VCCSTV1HL331J	R	330p	50V	Ceramic	AA
C504	VCCSTV1HL331J	R	330p	50V	Ceramic	AA
C505	VCEAGA1HW475M	R	4.7	50V	Electrolytic	AB
C508	VCQYTA1HM104J	R	0.1	50V	Mylar	AA
C511	VCKYTV1HB222K	R	2200p	50V	Ceramic	AA
C512	VCKYTV1HB102K	R	1000p	50V	Ceramic	AA
C514	VCEAGA1EW227M	R	220	25V	Electrolytic	AC
C515	VCKYPA1HB561K	R	560p	50V	Ceramic	AA
C517	VCKYTV1HB333K	R	0.033	50V	Ceramic	AA
C519	VCEAGA1CW107M	R	100	16V	Electrolytic	AB
C601	RC-FZ0144BMZZ	S	Capacitor			AE
C602	RC-KZ0035CEZZ	R	220p	2kV	Ceramic	AB
C603	"RC-FZ9223BMNJ	S	0.022	63V	Mylar	AB
C604	VCEAGA1AW227M	R	220	10V	Electrolytic	AB
C605	RC-FZ9104BMNJ	S	0.1	63V	Mylar	AB
C606	RC-FZ6474BMNJ	S	0.47	250V	Mylar	AE
C607	VCCCTV1HH390J	R	39p	50V	Ceramic	AA
C608	VCEAGA2CW105M	R	1	160V	Electrolytic	AB
C609	VCKYTV1HF103Z	R	0.01	50V	Ceramic	AA
C610	VCKYTV1HF103Z	R	0.01	50V	Ceramic	AA
C612	VCEAGA1HW105M	R	1	50V	Electrolytic	AC
C613	VCKYTV1HB472K	R	4700p	50V	Ceramic	AA
C614	VCKYTV1HF103Z	R	0.01	50V	Ceramic	AA
C617	RC-FZ9104BMNJ	S	0.1	63V	Mylar	AB
C620	RC-FZ9104BMNJ	S	0.1	63V	Mylar	AB
C622	VCEAGA1AW227M	R	220	10V	Electrolytic	AB
C623	VCCSTV1HL471J	R	470p	50V	Ceramic	AA
c625 Rc	-FZ9224BMNJ	S	°-22	o3v	Mylar	AC
A C702	RC-FZ0070BMZZ	S	0.1	250V	Mylar	AD
C703	RC-KZ0029CEZZ	R	0.01	250V	Ceramic	AC
C704	RC-KZ0029CEZZ	R	0.01	250V	Ceramic	AC
C705	RC-KZ0029CEZZ	R	0.01	250V	Ceramic	AC
C706	RC-EZ0115BMZZ	S	68	400V	Electrolytic	AM
C707	RC-FZ9153BMNJ	S	0.015	63V	Mylar	AB
C708	RC-FZ9683BMNJ	S	0.068	63V	Mylar	AB
C709	RC-FZ9332BMNJ	S	3300p	63V	Mylar	AA
C710	VCKYPA1 HB102K	R	1000p	50V	Ceramic	AA
C711	VCEAGH2CW107M	R	100	160V	Electrolytic	AE
C712	VCEAGA1 CW227M	R	220	16V	Electrolytic	AC
C713	VCEAGA1 CW108M	R	1000	16V	Electrolytic	AD
C714	VCEAGA1 AW477M	R	470	10V	Electrolytic	AC
C715	RC-FZ9224BMNJ	S	0.22	63V	Mylar	AC
C716	VCEAGA1 CW107M	R	100	16V	Electrolytic	AB
C717	VCKYTV1HF104Z	R	0.1	50V	Ceramic	AA
C718	RC-KZ0035CEZZ	R	220p	2kV	Ceramic	AB
C719	VCEAGA1 VW227M	R	220	35V	Electrolytic	AC
C721	VCKYTV1HF104Z	R	0.1	50V	Ceramic	AA
A C722	RC-KZ0106GEZZ	J	3300p	4kV	Ceramic	AQ
C723	RC-FZ9224BMNJ	R	0.22	63V	Mylar	AC
C724	VCEAGA1 CW106M	S	10	16V	Electrolytic	AA
C725	RC-KZ0035CEZZ	R	220p	2kV	Ceramic	AB
C726	VCKYPA1 HB471K	R	470p	50V	Ceramic	AA
C728	RC-KZ0029CEZZ	R	0.01	250V	Ceramic	AC
C801	VCKYTV1HP104Z	R	0.1	50V	Ceramic	AA
C802	VCKYTV1HF104Z	R	0.1	50V	Ceramic	AA
C803	VCKYTV1HF104Z	R	0.1	50V	Ceramic	AA
C804	VCEAGA1 HW336M	R	33	50V	Electrolytic	AB
C805	VCKYTV1HF104Z	R	0.1	50V	Ceramic	AA
C806	VCEAGA1CW107M	R	100	16V	Electrolytic	AB
C807	VCKYTV1HB223K	R	0.022	50V	Ceramic	AB
C809	VCKYTV1 HB472K	R	4700p	50V	Ceramic	AA
C810	VCKYTV1HF104Z	R	0.1	50V	Ceramic	AA
C815	VCEAGA1 HW225M	R	2.2	50V	Electrolytic	AB
C816	VCKYTV1 HB102K	R	1000p	50V	Ceramic	AA
C817	VCKYTV1HB102K	R	1000p	50V	Ceramic	AA
C820	VCCCTV1HH180J	R	18p	50V	Ceramic	AA
C825	VCKYTV1HF104Z	R	0.1	50V	Ceramic	AA
C826	VCEAGA1 HW475M	R	4.7	50V	Electrolytic	AB
C827	VCCCTV1HH101J	R	100p	50V	Ceramic	AA
C828	VCCCTV1HH101J	R	100p	50V	Ceramic	AA
C829	VCCCTV1HH101J	R	100p	50V	Ceramic	AA
C901	VCKYTV1 HF224Z	R	0.22	50V	Ceramic	AC
C906	VCKYTV1 EF224Z	R	0.22	25V	Ceramic	AA
C1002	VCEAGA1 HW475M	R	4.7	50V	Electrolytic	AB
C1004	VCEAGA1AW476M	R	47	10V	Electrolytic	AA
C1005	VCKYTV1HF104Z	R	0.1	50V	Ceramic	AA
C1008	VCCCTV1 HH220J	R	22p	50V	Ceramic	AA
C1009	VCCCTV1 HH220J	R	22p	50V	Ceramic	AA
C1012	VCKYTV1HF103Z	R	0.01	50V	Ceramic	AA
C1013	VCKYTV1HB473K	R	0.047	50V	Ceramic	AA
C1014	VCEAGA1 HW225M	R	2.2	50V	Electrolytic	AB
C1015	VCKYTV1HF104Z	R	0.1	50V	Ceramic	AA
C1016	VCKYTV1HF473Z	R	0.047	50V	Ceramic	AB

Ref. No.	Part No.	*	Description			Code
	PWB-A DUNTK7213BMW5					
	MOTHER UNIT (Continued)					
	CAPACITOIIS (Continuel$_{d}$)					
C1017	VCCCTV1HH680J	R	68p	50V	Ceramic	AA
C1018	VCCCTV1HH390J	R	39p	50V	Ceramic	AA
C1019	VCEAGA1CW106M	R	10	16V	Electrolytic	AA
C1020	VCKYTV1HF473Z	R	0.047	50V	Ceramic	AB
C1021	VCKYTV1HB333K	R	0.033	50V	Ceramic	AA
C1022	VCKYTV1HB333K	R	0.033	50V	Ceramic	AA
C1023	VCKYTV1 EF224Z	R	0.22	25V	Ceramic	AA
C1024	VCCCTV1HH151J	R	150p	50V	Ceramic	AA
C1026	VCCCTV1HH101J	R	100p	50V	Ceramic	AA
C1027	VCKYTV1 HF104Z	R	0.1	50V	Ceramic	AA
C1030	VCKYTV1HB102K	R	1000p	50V	Ceramic	AA
C1031	VCKYTV1 EP224Z	R	0.22	25V	Ceramic	AA
C1032	RC-FZ9334BMNJ	S	Capacitor			AC
C1033	VCKYTV1HB102K	R	1000p	50V	Ceramic	AA
	RESISTORS					
R201	VRS-TV1JD102J	R	1k	1/16W	Metal Oxide	AA
R202	VRS-TV1JD121J	R	120	1/16W	Metal Oxide	AA
R203	VRS-TV1JD561J	R	560	1/16W	Metal Oxide	AA
R204	VRS-TV1JD475J	R	4.7M	1/16W	Metal Oxide	AA
R205	VRS-TV1JD682J	R	6.8k	1/16W	Metal Oxide	AA
R209	VRS-TV1JD473J	R	47k	1/16W	Metal Oxide	AA
R210	VRS-TV1JD101J	R	100	1/16W	Metal Oxide	AA
R211	VRS-TV1JD101J	R	100	1/16W	Metal Oxide	AA
R225	VRS-TV1JD181J	R	180	1/16W	Metal Oxide	AA
R228	VRS-TV1JD332J	R	3.3k	1/16W	Metal Oxide	AA
R231	VRS-TV1JD183J	R	18k	1/16W	Metal Oxide	AA
R232	VRS-TV1JD223J	R	22k	1/16W	Metal Oxide	AA
R233	VRS-TV1JD471J	R	470	1/16W	Metal Oxide	AA
R234	VRS-TV1JD223J	R	22k	1/16W	Metal Oxide	AA
R235	VRS-TV1JD563J	R	56k	1/16W	Metal Oxide	AA
R236	VRD-RA2HD122J	R	1.2k	1/2W	Carbon	AA
R238	VRS-TV1JD152J	R	1.5k	1/16W	Metal Oxide	AA
R239	VRS-TV1JD331J	R	330	1/16W	Metal Oxide	AA
A R240	RR-XZ0100BMZZ	S	1	1/3W	Fuse Resistor	AB
R248	VRS-TV1JD102J	R	1k	1/16W	Metal Oxide	AA
R250	VRD-RA2BE820J	R	82	1/8W	Carbon	AA
R253	VRS-TV1JD470J	R	47	1/16W	Metal Oxide	AA
R254	VRS-TV1JD272J	R	2.7k	1/16W	Metal Oxide	AA
R256	VRS-TV1JD272J	R	2.7k	1/16W	Metal Oxide	AA
R257	VRS-TV1JD272J	R	2.7k	1/16W	Metal Oxide	AA
R260	VRS-TV1JD472J	R	4.7k	1/16W	Metal Oxide	AA
R301	VRS-TV1JD471J	R	470	1/16W	Metal Oxide	AA
R302	VRS-TV1JD333J	R	33k	1/16W	Metal Oxide	AA
R303	VRS-TV1JD104J	R	100k	1/16W	Metal Oxide	AA
R304	VRS-TV1JD103J	R	10k	1/16W	Metal Oxide	AA
A R305	RR-XZ0204BMZZ	S	2.2	1/2W	Fuse Resistor	AB
R306	VRS-TV1JD561J	R	560	1/16W	Metal Oxide	AA
R307	VRS-TV1JD104J	R	100k	1/16W	Metal Oxide	AA
R308	VRS-TV1JD101J	R	100	1/16W	Metal Oxide	AA
R309	VRS-TV1JD103J	R	10k	1/16W	Metal Oxide	AA
R310	VRS-TV1JD471J	R	470	1/16W	Metal Oxide	AA
R311	VRS-TV1JD471J	R	470	1/16W	Metal Oxide	AA
R312	VRD-RA2HD472J	R	4.7k	1/2W	Carbon	AA
R313	VRD -"A2HD472J	R	4.7k	1/2W	Carbon	AA
R314	VRn-RA?Hn47?.I	R	47k	1/2W	Carbon	AA
R315	VRS-TV1JD821J	R	820	1/16W	Metal Oxide	AA
R316	VRD-RA2BE103J	R	10k	1/8W	Carbon	AA
R317	VRS-TV1JD102J	R	1k	1/16W	Metal Oxide	AA
R318	VRS-TV1JD153J	R	15k	1/16W	Metal Oxide	AA
R362	VRS-TV1JD222J	R	2.2k	1/16W	Metal Oxide	AA
R363	VRS-TV1JD102J	R	1k	1/16W	Metal Oxide	AA
R364	VRS-TV1JD471J	R	470	1/16W	Metal Oxide	AA
R365	VRD-RA2BE221J	R	220	1/8W	Carbon	AA
R366	VRD-RA2BE221J	R	220	1/8W	Carbon	AA
R404	VRS-TV1JD102J	R	1k	1/16W	Metal Oxide	AA
R407	VRD-RA2HD680J	R	68	1/2W	Carbon	AA
R408	VRD-RA2BE221J	R	220	1/8W	Carbon	AA
R410	VRD-RA2BE820J	R	82	1/8W	Carbon	AA
R412	VRS-TV1JD222J	R	2.2k	1/16W	Metal Oxide	AA
R414	VRD-RA2BE820J	R	82	1/8W	Carbon	AA
R415	VRS-TV1JD222J	R	2.2k	1/16W	Metal Oxide	AA
R416	VRS-TV1JD102J	R	1k	1/16W	Metal Oxide	AA
R417	VRD-RA2BE820J	R	82	1/8W	Carbon	AA
R418	VRS-TV1JD102J	R	1k	1/16W	Metal Oxide	AA
R419	VRS-TV1JD222J	R	2.2k	1/16W	Metal Oxide	AA
R420	VRD-RA2BE820J	R	82	1/8W	Carbon	AA
R421	VRS-TV1JD470J	R	47	1/16W	Metal Oxide	AA
R422	VRS-TV1JD104J	R	100k	1/16W	Metal Oxide	AA
R423	VRS-TV1JD472J	R	4.7k	1/16W	Metal Oxide	AA
R424	VRS-TV1JD103J	R	10k	1/16W	Metal Oxide	AA
R425	VRS-TV1JD104J	R	100k	1/16W	Metal Oxide	AA
R426	VRS-TV1JD682J	R	6.8k	1/16W	Metal Oxide	AA
R427	VRS-TV1JD682J	R	6.8k	1/16W	Metal Oxide	AA
R428	VRS-TV1JD104J	R	100k	1/16W	Metal Oxide	AA
R434	VRS-TV1JD102J	R	1k	1/16W	Metal Oxide	AA
R435	VRS-TV1JD472J	R	4.7k	1/16W	Metal Oxide	AA
R436	VRS-TV1JD472J	R	4.7k	1/16W	Metal Oxide	AA
R437	VRS-TV1JD472J	R	4.7k	1/16W	Metal Oxide	AA
R500	VRS-TV1JD473J	R	47k	1/16W	Metal Oxide	AA
R501	VRD-RA2HD102J	R	1k	1/2W	Carbon	AA
R502	VRD-RA2HD182J	R	1.8k	1/2W	Carbon	AA
R503	VRS-TV1JD472J	R	4.7k	1/16W	Metal Oxide	AA
A R504	RR-XZ0109BMZZ	S	5.6	1/3W	Fuse Resistor	AB
R505	VRS-TV1JD182J	R	1.8k	1/16W	Metal Oxide	AA
A R506	RR-XZ0100BMZZ	S	1	1/3W	Fuse Resistor	AB
R507	VRD-RA2HD561J	R	560	1/2W	Carbon	AA
R508	VRS-TV1JD330J	R	33	1/16W	Metal Oxide	AA
R510	VRS-TV1JD153J	R	15k	1/16W	Metal Oxide	AA
R511	VRS-TV1JD103J	R	10k	1/16W	Metal Oxide	AA
A R512	RR-XZ0109BMZZ	S	5.6	1/3W	Fuse Resistor	AB
R513	VRS-TV1JD182J	R	1.8k	1/16W	Metal Oxide	AA
R514	VRD-RA2BE103J	R	10k	1/8W	Carbon	AA
R515	VRS-TV1JD821J	R	820	1/16W	Metal Oxide	AA
R516	VRS-TV1JD472J	R	4.7k	1/16W	Metal Oxide	AA
R518	VRD-RA2HD1 R8J	R	1.8	1/2W	Carbon	AA
R519	VRS-TV1JD103J	R	10k	1/16W	Metal Oxide	AA
R520	VRS-TV1JD222J	R	2.2k	1/16W	Metal Oxide	AA
R524	VRS-TVUDOOOJ	R	0	1/16W	Metal Oxide	AA
R525	VRS-TV1JD122J	R	1.2k	1/16W	Metal Oxide	AA

PWB-A DUNTK7213BMW5
MOTHER UNIT (Continued)

RESISTOFIS (Con!:inued)

Ref. No.	Part No.	*	Description	Code
R528	VRS-TV1JD184J	R	180k 1/16WMetalOxide	AA
R529	VRS-TV1JD102J	R	1k 1/16WMetalOxide	AA
R530	VRS-TV1JD332J	R	3.3k 1/16WMetalOxide	AA
R531	VRS-TV1JD101J	R	100 1/16WMetalOxide	AA
R601	VRD-RA2BE123J	R	12k 1/8W Carbon	AA
R602	VRD-RA2HD331J	R	330 1/2W Carbon	AA
A R603	RR-XZ0200BMZZ	S	1 1/2W Fuse Resistor	AB
R604	VRD-RA2EE6R8J	R	6.8 1/4W Carbon	AA
R605	VRD-RA2EE5R6J	R	5.6 1/4W Carbon	AA
R606	VRD-RA2HD2R2J	R	2.2 1/2W Carbon	AA
R607	VRD-RA2BE472J	R	4.7k 1/8W Carbon	AA
R608	VRD-RA2BE222J	R	2.2k 1/8W Carbon	AA
R609	VRN-VV3AB1R2J	R	1.2 1W Metal Film	AA
A R611	RR-XZ0242BMZZ	S	3.3k 1/2W Fuse Resistor	AB
R612	VRS-TV1JD153J	R	15k 1/16WMetalOxide	AA
R613	VRS-TV1JD101J	R	100 1/16WMetalOxide	AA
R615	VRS-TV1JD153J	R	15k 1/16WMetalOxide	AA
R616	VRS-VV3AB270J	R	27 1W Metal Oxide	AA
R618	VRD-RA2HD102J	R	1k 1/2W Carbon	AA
R619	VRS-VV3AB270J	R	27 1W Metal Oxide	AA
R620	VRD-RA2HD102J	R	1k 1/2W Carbon	AA
R621	VRS-TV1JD103J	R	10k 1/16WMetalOxide	AA
R622	VRS-TV1JD153J	R	15k 1/16WMetalOxide	AA
R623	VRS-TV1JD394J	R	390k 1/16WMetalOxide	AA
R624	VRS-TV1JD684J	R	•680k 1/16WMetalOxide	AA
R632	VRD-RA2HD471J	R	470 1/2W Carbon	AA
R633	VRS-TV1JD153J	R	15k 1/16WMetalOxide	AA
R702	VRD-RA2HD224J	R	220k 1/2W Carbon	AA
R703	VRW-KP3HC5R6K	R	5.6 5W Cement	AC
R704	VRD-RA2HD564J	R	560k 1/2W Carbon	AA
R705	VRD-RA2HD564J	R	560k 1/2W Carbon	AA
R706	VRN-VV3ABR47J	R	0.47 1W Metal Film	AA
R707	VRD-RA2BE221J	R	220 1/8W Carbon	AA
R708	VRD-RA2HD102J	R	1k 1/2W Carbon	AA
R709	VRD-RA2BE330J	R	33 1/8W Carbon	AA
R710	VRD-RA2HD561J	R	560 1/2W Carbon	AA
R711	VRD-RA2BE561J	R	560 1/8W Carbon	AA
R712	VRD-RA2EE561J	R	560 1/4W Carbon	AA
R713	VRS-TV1JD220J	R	22 1/16WMetalOxide	AA
R714	VRS-TV1JD101J	R	100 1/16WMetalOxide	AA
R715	VRS-TV1JD681J	R	680 1/16WMetalOxide	AA
R716	VRS-TV1JD273J	R	27k 1/16WMetalOxide	AA
R717	VRS-TV1JD4R7J	R	4.7 1/16WMetalOxide	AA
R718	VRS-TV1JD333J	R	33k 1/16WMetalOxide	AA
R720	VRD-RA2BE223J	R	22k 1/8W Carbon	AA
A R721	VRC-UA2HG825K	R	8.2M 1/2W Solid	AA
A R722	VRC-UA2HG825K	R	8.2M 1/2W Solid	AA
R724	VRS-TV1JD471J	R	470 1/16WMetalOxide	AA
R725	VRS-TV1JD222J	R	2.2k 1/16WMetalOxide	AA
R729	VRD-RA2EE472J	R	4.7k 1/4W Carbon	AA
R801	VRS-TV1JD104J	R	100k 1/16WMetalOxide	AA
R802	VRS-TV1JD221J	R	220 1/16WMetalOxide	AA
R803	VRS-TV1JD4R7J	R	4.7 1/16WMetalOxide	AA
R804	VRS-TV1JD393J	R	39k 1/16WMetalOxide	AA
R805	VRS-TVUD395J	R	3.9M 1/16WMetal Oxide	AA
R806	VRS-TV1JD2R2J	R	2.2 1/16WMetalOxide	AA
R807	VRS-TV1JD221J	R	220 1/16W Metal Oxide	AA
R809	VRS-TV1JD101J	R	100 1/16W Metal Oxide	AA
R810	VRS-TV1JD101J	R	100 V16W Metal Oxide	AA
R814	VRS-TV1JD101J	R	100 1/16W Metal Oxide	AA
R815	VRS-TV1JD101J	R	100 1/16W Metal Oxide	AA
R816	VRS-TV1JD101J	R	100 1/16W Metal Oxide	AA
R825	VRS-TV1JD682J	R	6.8k 1/16W Metal Oxide	AA
R834	VRS-TV1JD102J	R	1k 1/16W Metal Oxide	AA
R836	VRD-RA2BE681J	R	680 1/8W Carbon	AA
R837	VRS-TVUDOOOJ	R	0 1/16W Metal Oxide	AA
R838	VRS-TV1JD821J	R	820 1/16W Metal Oxide	AA
R901	VRS-TV1JD102J	R	1k 1/16W Metal Oxide	AA
R902	VRS-TV1JD103J	R	10k 1/16W Metal Oxide	AA
R903	VRD-RA2BE470J	R	47 1/8W Carbon	AA
R904	VRS-TVUDOOOJ	R	0 1/16W Metal Oxide	AA
R1001	VRS-TV1JD472J	R	4.7k 1/16W Metal Oxide	AA
R1002	VRS-TV1JD472J	R	4.7k 1/16W Metal Oxide	AA
R1003	VRS-TV1JD103J	R	10k 1/16W Metal Oxide	AA
R1004	VRS-TV1JD392J	R	3.9k 1/16W Metal Oxide	AA
R1005	VRS-TV1JD102J	R	1k 1/16W Metal Oxide	AA
R1006	VRS-TV1JD102J	R	1k 1/16W Metal Oxide	AA
R1007	VRS-TV1JD102J	R	1k 1/16WMetalOxide	AA
R1008	VRD-RA2BE102J	R	1k 1/8W Carbon	AA
R1009	VRS-TV1JD391J	R	390 1/16W Metal Oxide	AA
R1010	VRS-TV1JD391J	R	390 1/16W Metal Oxide	AA
R1011	VRS-TV1JD391J	R	390 1/16W Metal Oxide	AA
R1013	VRS-TV1JD561J	R	560 1/16W Metal Oxide	AA
R1015	VRS-TVUDOOOJ	R	0 1/16W Metal Oxide	AA
R1016	VRS-TV1JD101J	R	100 1/16W Metal Oxide	AA
R1017	VRS-TVUD473J	R	47k 1/16W Metal Oxide	AA
R1021	VRS-TV1JD223J	R	22k 1/16W Metal Oxide	AA
R1022	VRS-TV1JD103J	R	10k 1/16W Metal Oxide	AA
R1024	VRS-TV1JD101J	R	100 1/16W Metal Oxide	AA
R1026	VRS-TV1JD103J	R	10k 1/16W Metal Oxide	AA
R1027	VRS-TV1JD332J	R	3.3k 1/16W Metal Oxide	AA
R1028	VRS-TV1JD332J	R	3.3k 1/16W Metal Oxide	AA
R1029	VRS-TV1JD103J	R	10k 1/16W Metal Oxide	AA
R1030	VRD-RA2BE392J	R	3.9k 1/8W Carbon	AA
R1034	VRS-TV1JD153J	R	15k 1/16W Metal Oxide	AA
R1035	VRS-TV1JD223J	R	22k 1/16W Metal Oxide	AA
R1037	VRS-TV1JD103J	R	10k 1/16W Metal Oxide	AA
R1038	VRS-TV1JD221J	R	220 1/16W Metal Oxide	AA
R1039	VRS-TV1JD221J	R	220 1/16W Metal Oxide	AA
R1041	VRS-TV1JD221J	R	220 1/16W Metal Oxide	AA
R1048	VRD-RA2HD472J	R	4.7k 1/2W Carbon	AA
R1049	VRD-RA2HD472J	R	4.7k 1/2W Carbon	AA
R1056	VRS-TV1JD101J	R	100 1/16W Metal Oxide	AA
R1058	VRS-TV1JD472J	R	4.7k 1/16W Metal Oxide	AA
R1059	VRD-RA2HD472J	R	4.7k 1/2W Carbon	AA
R1066	VRS-TV1JD103J	R	10k 1/16W Metal Oxide	AA
R1068	VRS-TVUD683J	R	68k 1/16W Metal Oxide	AA
R1069	VRS-TV1JD682J	R	6.8k 1/16W Metal Oxide	AA
R1070	VRS-TV1JD682J	R	6.8k 1/16W Metal Oxide	AA
R1071	VRS-TV1JD682J	R	6.8k 1/16W Metal Oxide	AA

Ref. No.	Part No.	*	Description	Code

PWB-A DWITI<7213BMW5

MOTHERUISIIT (Continued)

RESISTOR S (Continued)

R1072	VRS-TV1JD684J	R	680k 1/16W Metal Oxide	AA
R1073	VRS-TV1JD222J	R	2.2k 1/16W Metal Oxide	AA
R1075	VRS-TV1JD103J	R	10k 1/16W Metal Oxide	AA
R1077	VRS-TV1JD472J	R	4.7k 1/16W Metal Oxide	AA
R1078	VRS-TV1JD271J	R	270 1/16W Metal Oxide	AA
R1080.	VRS-TV1JD332J	R	3.3k 1/16W Metal Oxide	AA
R1081	VRS-TV1JD101J	R	100 1/16W Metal Oxide	AA
R1082	VRS-TV1JD101J	R	100 1/16W Metal Oxide	AA
R1083	VRD-RA2BE331J	R	330 1/8W Carbon	AA
R1085	VRD-RA2BE101J	R	100 1/8W Carbon	AB

MISCELLAIMEOUS PARTS

A	S701	QSW-P0588CEZZ	R	Switch	AP
	S1001	QSW-K0079GEZZ	R	Switch	AB
	S1002	QSW-K0079GEZZ	R	Switch	AB
	S1003	QSW-K0079GEZZ	R	Switch	AB
	S1004	QSW-K0079GEZZ	R	Switch	AB
A	F701	QFS-C3226CEZZ	R	Fuse	AE
	FB201	RBLN-0037CEZZ	R	Balun	AB
	FB301	RBLN-0037CEZZ	R	Balun	AB
	FB304	RBLN-0037CEZZ	R	Balun	AB
	FB351	RBLN-0037CEZZ	R	Balun	AB
	FB601	RBLN-0037CEZZ	R	Balun	AB
	FB1001	RBLN-0037CEZZ	R	Balun	AB
	FB1002	RBLN-0037CEZZ	R	Balun	AB
	FH1001	QFSHD1017CEZZ	R	Fuse Holder	AC
	FH1002	QFSHD1018CEZZ	R	Fuse Holder	AC
	RMC0001	RRMCU0222CEZZ	R	Remote Receiver	AL
		PRDAR5510BMFW	S	Heat Sink	
		QCNW-2704BMZZ	S	Connecting Cord	
		QCNW-2705BMZZ	S	Connecting Cord	
	J301	QJAKJ0047CEZZ	R	Jack	AD
	P201	QTiPM0017CEFM	R	Tip	AA
	P301	QPLGN0241CEZZ	R	Plug	AA
	P402	QPLGN0561CEZZ	R	Plug, DIP	AB
	P601	QPLGN0505CEZZ	R	Plug	AB
	P602	QPLGN0461CEZZ	R	Plug	AB
A	P701	QPLGN0304CEZZ	R	Plug	AB
A	P702	QPLGN0207CEZZ	R	Plug	AA
	SC401	QSOCZ2107BMZZ	S	Socket	AE
		MSPRK1003BMFW	S	Spring	
		LHLDK1501BMOO	S	Holder	
A		QACCZ2100BMSA	S	AC Cord	AR
		QCNW-2676BMZZ	S	Connecting Cord	
		QCNW-2712BMZZ	S	Connecting Cord	
	SP1	VSP0080PBL6YS	S	Speaker	AH
		LHLDW1033CEOO	R	Holder	AA
		XTASB40P20000	R	Screw	AA

EndofRWB-A-

Ref. No.	Part No.	*	Descrilption	Code

PWB-B 0urIT K721 4BIVIW5

CRT SOCfrGET IJNIT

TRANSIISTOPS

Q870	RH-TX0181BMZZ	S	BF422	AC
Q871	RH-TX0181BMZZ	S	BF422	AC
Q872	RH-TX0181BMZZ	S	BF422	AC
Q883	RH-TX0180BMZZ	S	BF421	AB
Q885	RH-TX0180BMZZ	S	BF421	AB
Q887	RH-TX0180BMZZ	S	BF421	AB

DliOC>ES

D811	RH-DX0045BMZZ	S	Diode	AA
D812	RH-DX0045BMZZ	S	Diode	AA
D880	RH-DX0045BMZZ	S	Diode	AA
D881	RH-DX0045BMZZ	S	Diode	AA
D882	RH-DX0045BMZZ	S	Diode	AA

C;OIL

L881	VP-CF120KOOOO	R	Peakirig12ur<	AB

CAP/\C\ITORS~

C871	VCCSTV1HL471J	R	470p	50V	Ceramic	AA
C872	VCCSTV1HL471J	R	470p	50V	Ceramic	AA
C873	VCCSTV1HL471J	R	470p	50V	Ceramic	AA
C874	VCKYPA2HB102K	R	1000p	500V	Ceramic	AA
C876	RC-KZ0023CEZZ	R	Capacitor			AD
C878	VCEAGA2DW106M	R	10	200V	Electrolytic	AC
C880	VCCSTV1HL471J	R	470p	50V	Ceramic	AA
C881	VCCSTV1HL471J	R	470p	50V	Ceramic	AA
C882	VCCSTV1HL471J	R	470p	50V	Ceramic	AA

RESISTORS

R879	VRS-TV1JD471J	R	470	1/16W	Metal Oxide	AA
R880	VRS-TV1JD471J	R	470	1/16W	Metal Oxide	AA
R881	VRS-TV1JD471J	R	470	1/16W	Metal Oxide	AA
R882	VRS-VV3DB153J	R	15k	2W	Metal Oxide	AA
R883	VRD-RA2HD272J	R	2.7k	1/2W	Carbon	AA
R884	VRS-VV3DB153J'	R	15k	2W	Metal Oxide	AA
R885	VRD-RA2HD272J	R	2.7k	1/2W	Carbon	AA
R886	VRS-VV3DB153J	R	15k	2W	Metal Oxide	AA
R887	VRD-RA2HD272J	R	2.7k	1/2W	Carbon	AA
R888	VRS-TV1JD471J	R	470	1/16W	Metal Oxide	AA
R892	VRS-TV1JD102J	R	1k	1/16W	Metal Oxide	AA
R893	VRS-TV1JD102J	R	1k	1/16W	Metal Oxide	AA
R894	VRS-TV1JD102J	R	1k	1/16W	Metal Oxide	AA
R898	VRS-TV1JD471J	R	470	1/16W	Metal Oxide	AA
R899	VRS-TV1JD471J	R	470	1/16W	Metal Oxide	AA

MISCELLANEOUS PARTS

P851	QPLGN0461CEZZ	R	Plug		AB
P881	QTiPM0017CEFM	R	Tip		AA
P882	QPLGN0561CEZZ	R	Plug		AB
P883	QTiPM0017CEFM	R	Tip		AA
A SC881	QSOCV0842CEZZ	R	Socket		AH

- End of PWB-B——

Ret. No.	Part No.	*	Description	Code

SUPPLIED ACCESSORIES

ACCESSORIES

RRMCG1059BMSA	S	Infrared R-C	**AS**
TiNS-652-IBMNO	S	Instruction Book	**AS**
QANTR0081CEZZ	**R**	**Rod Antenna**	**AP**

ACCESSORIES (NOT REPLACEMENT ITEM)

UBATU0007UMZZ	Battery

- End of SUPPLIED ACCESSORIES -

LABELS

(NOT REPLACEMENT ITEM)

TLABK0001TAN5	S	Label
TLABM5451BM22	S	Label
TLABN0130BMN5	S	Label
TLABN0132BMZ2	S	Label
TLABV2415BMZZ	S	Label

• End of LABELS•

PACKING PARTS

(NOT REPLACEMENT ITEM)

SPAKC5368BMZZ	S	Packing Case
SPAKX4047BMZZ	S	Packing Add.
SSAKA1004BMZZ	S	Polyethylene Bag

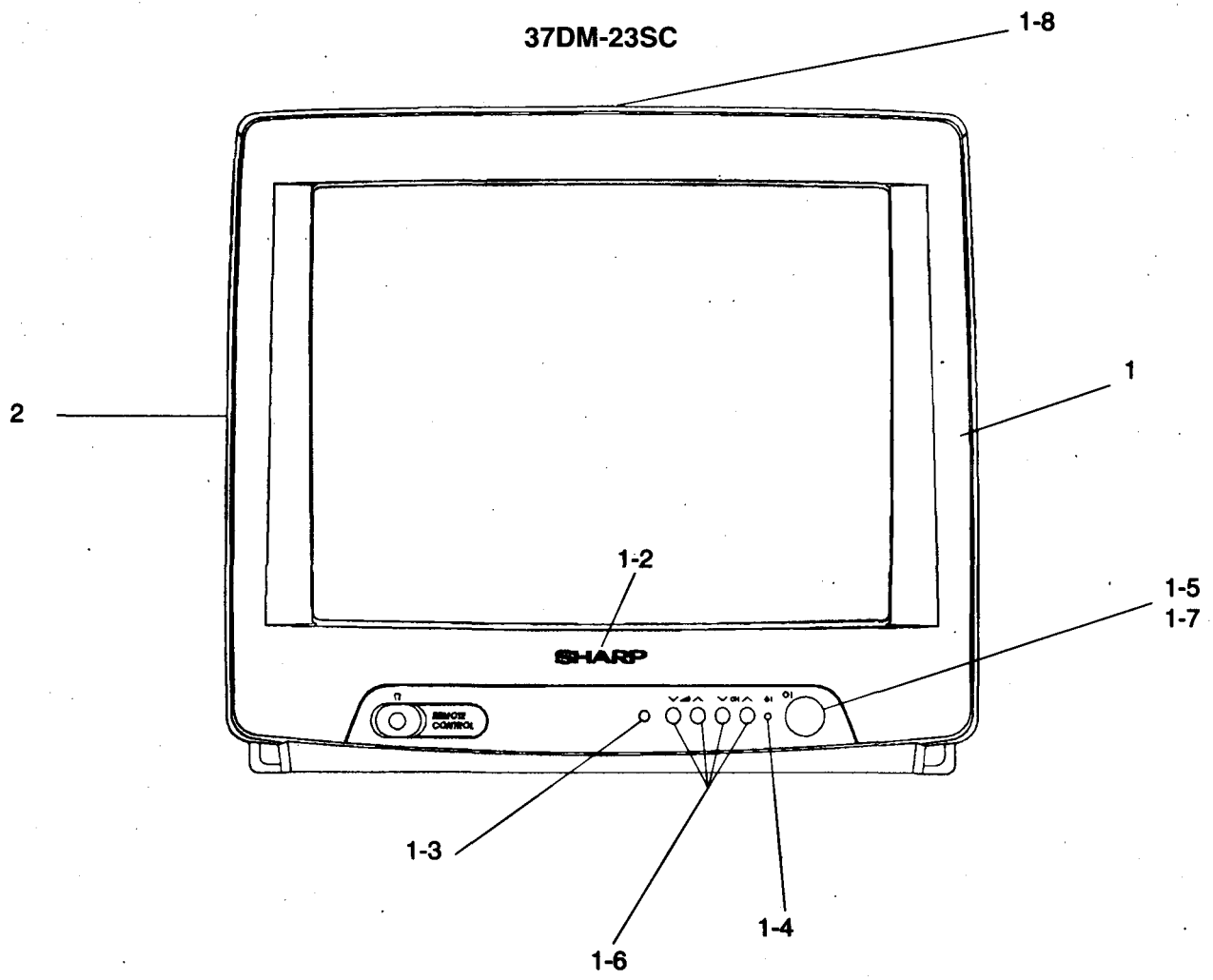
• End Of PACKING PARTS •

Ref. No.	Part No.	*	Description	Code

CABINET PARTS

1	CCABA1188BMVO	S	Cabinet Ass'y, Front	**AX**
	Not Available	-	Cabinet, Front	
1-2	HBDGB1017BMSA	S	Sharp Badge	**AC**
1-3	HDECQ0021BMSA	S	R/CDec.	**AB**
1-4	HDECQ0022BMSA	S	LED Dec.	**AB**
1-5	JBTN-1038BMSA	S	Button, Power	**AB**
1-6	JBTN-1039BMSA	S	Button, Up/Down	**AC**
1-7	MSPRC0106BMFW	S	Spring, Power Button	**AA**
1-8	PZETV1005BMKZ	**S**	**Insulator**	**AC**
1-9	XTASD30P12000	R	Screw	**AA**
2	GCABB1067BMKA	S	Cabinet, Rear	**AU**

• End of CABINET PARTS -


37DM-23SC
1-8
1
2
1-2
1-5
1-7
SHARP
REMOTE CONTROL
1-3
1-4
1-6